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31 MAY 1905

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

HEALTH

OF THE

CITY OF BIRMINGHAM

FOR THE YEAR **1904.**

BIRMINGHAM:
PERCIVAL JONES LIMITED, TOWN HALL PRINTING OFFICES, EDMUND STREET.

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HEALTH DEPARTMENT,
THE COUNCIL HOUSE,
BIRMINGHAM,
June 6th, 1905.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I beg herewith to submit the Annual Report on the Public Health in the City of Birmingham for the year ending December 31st, 1904, in compliance with the requirements of the Local Government Board. Introduction.

The year under review has been notable for some few features of importance. On the whole, the statistics may be considered as relatively satisfactory.

The continuous warm, dry weather in the summer and autumn was the indirect cause of the high rate of mortality among young infants, and demonstrated again the necessity for concerted action in dealing with the ignorance and carelessness which is everywhere prevalent in the feeding and rearing of these infants.

Again, in the spring a very virulent and widespread epidemic of whooping cough caused the deaths of a large number of young children. The City had been comparatively free from this disease for a longer period than usual, so that susceptible material had accumulated in large quantity.

These are the two outstanding unfavourable features in the year's statistics. On the other hand, I have pleasure in recording many very favourable features in the accompanying pages.

Introduction *continued*.

The incidence of Typhoid Fever was remarkably low—much lower than previously recorded. This is the more remarkable as it coincided with a high mortality from diarrhœal diseases.

Again, the incidence of Scarlet Fever, Diphtheria, and other zymotic diseases was comparatively low.

The year 1901 will be chiefly remembered as the one during which the supply of pure water from Wales commenced to flow into Birmingham, to replace the former hard and unsatisfactory water which, although it had never been credited with giving rise to disease, was at times open to some amount of suspicion.

The general work of the department has proceeded satisfactorily. Almost of necessity, there have been a few changes in the work as a result of the retirement in the previous year of the chief officer, Dr. Hill. It is my desire, however, as far as possible, to continue and develop the good work which was commenced in his time.

I am, Gentlemen,

Your obedient Servant,

JOHN ROBERTSON, M.D., B.Sc.

POPULATION.

Population

By the Registrar-General's method of estimating increases in population during inter-censal periods, there were in the middle of 1904 (June 30th) 537,965 persons living within the City boundary. If the same relative numbers of males and females existed as at the census, then on June 30th there were 259,692 males and 278,273 females living in the City.

For the purposes of this report the above estimates have been used for calculation of mortality and other rates, as in the absence of reliable local data it is preferable to use the official method.

Possible error in estimated population.

There are, however, some local data which go to indicate that the Registrar-General's estimate of the population is somewhat too high, although as yet the error is not sufficient to vitiate the conclusions based upon it.

Only three and a quarter years have elapsed between the census enumeration and the date of the above estimate, yet it is already necessary to look into the question of the accuracy of the most fundamental of all our health statistics—the gross number of the population. If error there be already, it will increase during the following six years and three-quarters, and may seriously vitiate our conclusions.

Need of a quinquennial census.

Everyone engaged in public health work, and who is responsible for the statistical part of it, is agreed that a decennial interval between census enumerations is far too long, and that at least a partial census is needed at the middle period of the decennium. The great and outstanding difficulty in taking such a quinquennial census is the expense involved.

In a city such as Birmingham there are certain prominent factors in operation leading to error in the population estimates.

Migration to suburbs.

(1) Perhaps the chief of these lies in the fact that the City boundary encloses far too small an area of land to accommodate comfortably all of its inhabitants, while at the same time railway and tramway facilities are enabling a very much larger number of people to live in less-congested districts. In practice it is now as economical and convenient to live in certain districts four or five miles from the centre of Birmingham, and outside the City boundary, as it formerly was to live on the outskirts of the City. Migration from the city to the suburbs takes place somewhat irregularly as facilities are offered, and is indicated in the enormous growth of some of the residential districts outside the City boundary. As will be pointed out in a later part of this report, the migration of people who are anxious to live under the most healthy conditions, and who are mostly the strong young adults, takes away from the City a population with a very low death-rate. Were these Birmingham people included, the City's relatively satisfactory death-rate would be better still.

Migration to other places.

(2) The City has during the past few years been passing through one of those periods of trade depression which always have a tendency to make those affected look abroad to see whether better conditions maintain elsewhere in England or in other countries. This trade migration may not in itself have been a very important factor in vitiating the population estimate, but, in conjunction with the migration to districts beyond the City boundary, it seems to have had some considerable effect. This is indicated in the table below, where it will be seen that the average increase in the numbers of houses occupied in the City during each of the years 1897 to 1900 was greatly in excess of the average in the following four years :—

AVERAGE YEARLY INCREASE IN OCCUPIED HOUSES.

1897 to 1900	2,180
1900 to 1904	508

Occupied houses.

The following table shows the number of occupied houses in each year since 1896, and the increase or decrease in each ward during the nine years. (From information supplied by the Overseers.)

OCCUPIED HOUSES.

Ward.	1896	1897	1898	1899	1900	1901	1902	1903	1904	Increase or Decrease in 9 years.
Rotton Park	8354	8615	8739	9079	9442	10199	10041	10215	10383	+ 2029
All Saints'	7827	7853	8075	8549	9028	8847	8939	8996	9195	+ 1368
Ladywood	5703	5692	5605	5639	5645	5627	5634	5662	5669	– 34
St. Paul's	3762	3718	3688	3650	3630	3187	3316	3318	3341	– 421
St. George's	4577	4572	4585	4670	4632	4572	4623	4618	4621	+ 44
St. Stephen's	4749	4741	4864	4913	4882	4963	4952	4962	4930	+ 181
St. Mary's...	3174	3262	3205	3230	3237	3308	3325	3378	3297	+ 123
St. Bartholomew's ...	5195	5134	5119	5315	5326	5297	5301	5241	5089	– 106
Market Hall	2429	2363	2362	2372	2335	2109	2094	2075	2005	– 424
St. Thomas'	4050	4056	4030	4088	4170	4201	4067	4061	4106	+ 56
St. Martin's	5150	5163	5170	5216	5260	5220	5250	5233	5331	+ 181
Edgbaston and Harborne	5734	5863	6056	6289	6373	6386	6473	6496	6491	+ 757
Deritend	5269	5305	5415	5370	5248	5232	5194	5101	5118	– 151
Bordesley	9412	10231	10869	11179	11514	11703	11907	12168	11905	+ 2493
Duddeston	4795	4921	5240	5082	5132	5060	5026	4977	4958	+ 163
Nechells	6757	6771	6869	7036	7021	7012	6955	7023	6947	+ 190
Balsall Heath ...	8200	8250	8419	8547	8650	8700	8750	8825	9000	+ 800
Saltley	5720	6188	6764	7242	8053	8340	8715	8960	9223	+ 3503
City	100857	102698	105074	107466	109578	109963	110562	111309	111609	+ 10752

In 1901 the census showed that 522,204 persons were then in Birmingham, while during the same year the Overseers ascertained that 109,963 houses were occupied. This is equivalent to 4.75 persons per house.

Population based on occupied houses.

In 1904 the Overseers ascertained the existence of 111,609 occupied houses. If 4.75 persons on an average still occupy each house, then the population for 1904 was 530,143, instead of 537,965, as estimated by the Registrar-General, a difference of 7,822 persons. If this estimate based on the occupied houses be correct, then the birth-rate given in this report would be about .4 per 1,000, and the death-rate about .2 per 1,000, too low. The smaller increase in occupied houses may be to some extent due to a larger number of houses being occupied by two families; but, from the Health Visitors' reports and other sources, it has been ascertained that no large increase in this objectionable form of economy has taken place

Populations and areas of wards.

Excluding the inmates of large public institutions, the population was distributed in the various wards as follows :—

WARD.	Area in Acres.	Population 1904.	Persons per Acre.
Rotton Park	1,233	47,658	38·7
All Saints	532	43,033	80·9
Ladywood ...	249	25,284	101·5
St. Paul's	264	15,669	59·4
St. George's	120	21,425	170·2
St. Stephen's	169	23.615	139·7
St. Mary's	184	15,859	86·2
St. Bartholomew's	313	25,801	82·4
Market Hall	229	9,163	40·0
St. Thomas' ..	179	18,764	104·8
St. Martin's ...	468	24,169	52·3
Edgbaston and Harborne ...	3,407	31,287	9·2
Deritend	279	24,157	86·6
Bordesley	1,387	55,596	40·1
Duddeston ...	299	23,451	78·4
Nechells	512	33.346	65·1
Balsall Heath ..	463	40.140	86·7
Saltley	2,352	46,761	19·9
Whole City	12,639	537.965	42·6

MARRIAGES.

Marriage-rate.

The number of persons married in Birmingham during 1904 was 9,250, representing 4,625 marriages. This is equivalent to a marriage-rate of 17.2 persons married per 1,000 of the population, as compared with 18.4 in 1903. In London the marriage-rate was 17.0 per 1,000 during 1904.

The low marriage-rate during 1904 was the result of trade depression. Chart No. 1 indicates the relative position of the marriage-rate in 1904, as compared with those in preceding years in the registration districts in which Birmingham is situated.

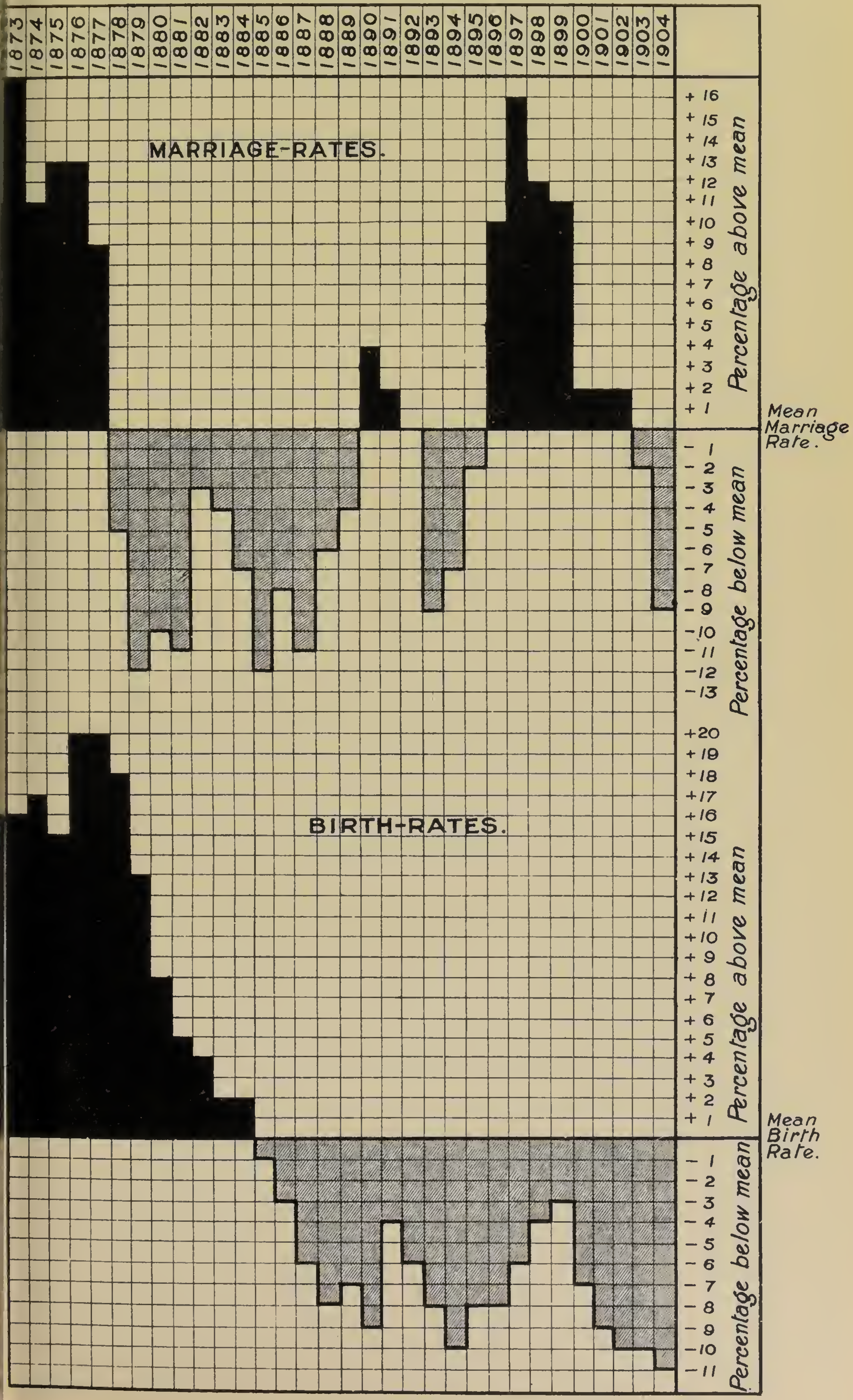
BIRTHS.

Birth rate

The births registered during 1904 numbered 16,902, as compared with 16,866 in 1903. The rate per 1,000 of

CHART No. I.

Marriage-Rate and Birth-Rate, 1873-1904.



the population was, therefore, 31.5 in 1904—the lowest on record, as will be seen from the following figures :—

Year.	Birth-rate.	Year.	Birth-rate.	Year.	Birth-rate.
1873	40·8	1884	35·9	1895	32·3
1874	41·2	1885	34·9	1896	32·5
1875	40·6	1886	34·2	1897	33·2
1876	42·5	1887	33·2	1898	34·0
1877	42·4	1888	32·4	1899	34·3
1878	41·7	1889	32·7	1900	32·7
1879	40·0	1890	32·1	1901	32·1
1880	38·3	1891	33·8	1902	31·9
1881	37·0	1892	33·2	1903	31·7
1882	36·8	1893	32·6	1904	31·5
1883	36·1	1894	31·6		

Birth-rates in other large towns.

In other large towns the birth-rates for 1904 were as follows :—

London..	27·9
Liverpool	33·7
Manchester	31·3
Leeds ...	28·0
Sheffield	32·0
Bristol ...	26·7
Bradford	22·1
West Ham	32·3
Hull ...	31·0
Nottingham	27·7
Salford ...	31·8
Newcastle	30·5
Leicester	26·6

Among the 76 great towns, the birth-rate was highest in Rhondda, 39.8 ; Merthyr Tydfil, 38.1 ; St. Helens, 37.6 ; Middlesbrough, 36.1 ; and Wigan, 35.0 ; and lowest in Bournemouth, 17.1 ; Hastings, 17.4 ; Hornsey, 19.9 ; and Halifax, 20.0.

The yearly variations in the birth-rate in Birmingham are indicated in Chart 1.

Decline in birth-rate.

The mean birth-rates at each of the last census periods in Birmingham, and in England and Wales, are indicated below :—

	Birmingham.	England and Wales.
1870—2	39·3	35·3
1880—2	37·4	34·0
1890—2	33·0	30·7
1900—2	32·2	28·6
Year 1904	31·5	27·9

In his report for the year 1903, the Registrar-General points out that the decrease in the birth-rate is even greater than is indicated by such figures as the above, calculated on the total number of the population. He suggests that, for a better estimate of this falling-off, the rate should be calculated on the number of women of child-bearing age—say 15 to 45 years. The figures obtained by this method are as follows :—

PROPORTION OF TOTAL BIRTHS PER 1,000 WOMEN AT AGES 15 TO 45 YEARS.

	Birmingham.	England and Wales.
1870–2	160·3	153·7
1880—2	154·4	147·7
1890—2	134·4	129·7
1900–2	123·9	114·8

DEATHS.

Death-rate.

The deaths of 10,340 persons belonging to Birmingham were registered during 1904. This number is equal to a mortality-rate of 19.3 per 1,000 per annum. In 1903 the number of deaths was 9,123, and the mortality-rate 17.2 per 1,000. The increase in the number of deaths over those in the previous year was 1,217.

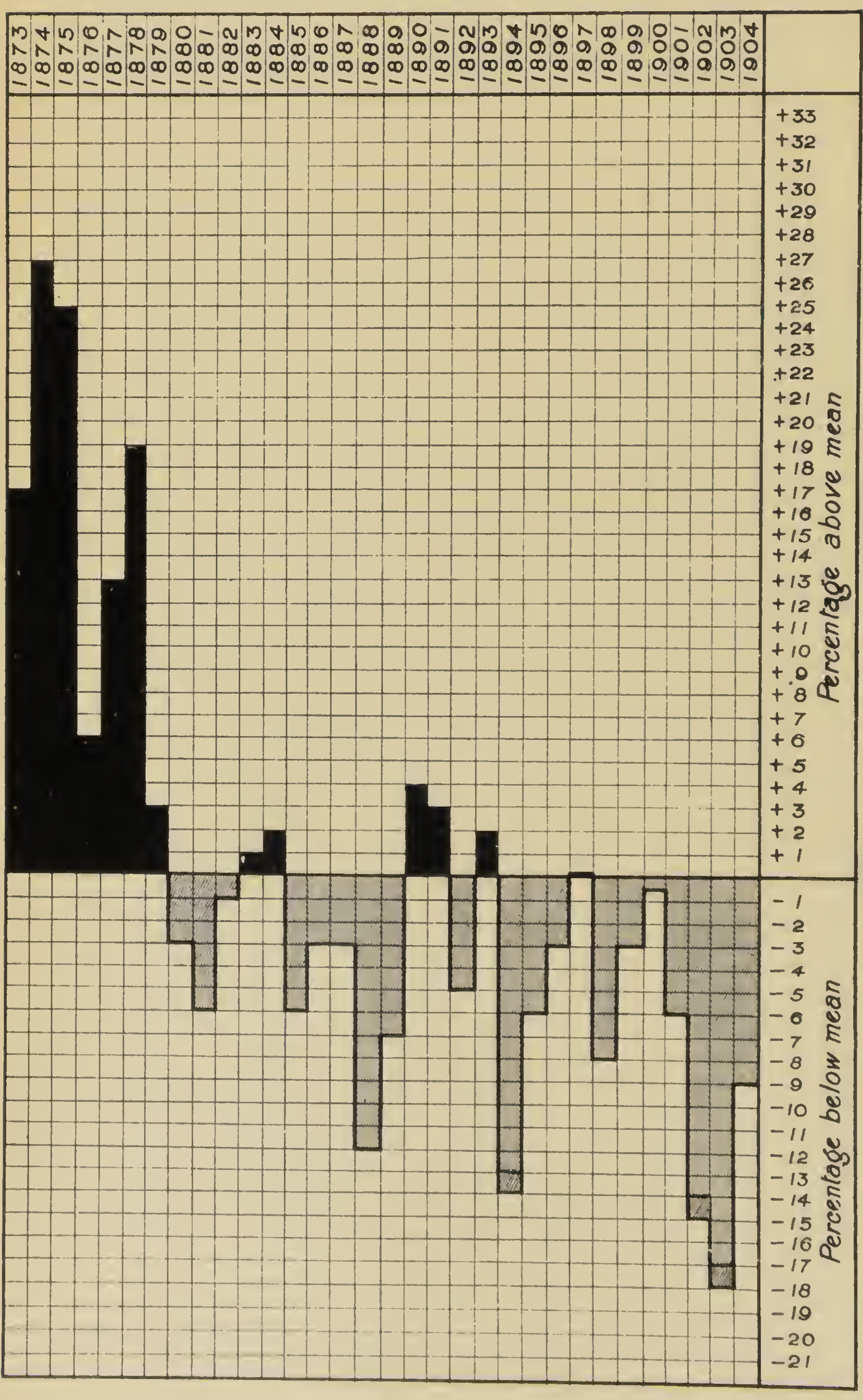
The mortality-rate during 1904 among males was 21.0 per 1,000, and 17.6 per 1,000 among females. In 1903 it was 18.7 for males, and 15.7 for females.

It is important to be able to compare the mortality-rate for 1904 with similar rates in previous years. The appended table enables this to be done for each year since 1873 with a fair amount of accuracy, if it is borne in mind that the City boundaries were extended in 1891, and a relatively healthy population added.

	Death-rate per 1000.	
1873	24·8	Average 25·1
1874	26·8	
1875	26·3	
1876	22·4	
1877	23·9	Average 22·8
1878	25·2	
1879	21·8	
1880	20·5	
1881	19·8	Average 20·9
1882	20·8	
1883	21·4	
1884	21·6	
1885	19·8	Average 19·8
1886	20·5	
1887	20·4	
1888	18·6	
1889	19·7	Average 20·8
1890	22·0	
1891	21·7	
1892	20·0	
1893	21·5	Average 20·0
1894	18·2	
1895	19·9	
1896	20·4	
1897	21·1	Average 20·5
1898	19·5	
1899	20·5	
1900	21·0	
1901	19·9	Average 18·6
1902	18·0	
1903	17·2	
1904	19·3	

CHART No. 2.

Death-Rate in Birmingham, 1873-1904.



Small reduction in death-rate.

The results of such a comparison, especially when the years are grouped into periods of four years, are by no means as satisfactory as could have been desired.

During the two earliest of the periods set out in the foregoing table (*i.e.*, 1873 to 1880 inclusive), the mortality was very high. Since 1880, however, the mortality-rate has varied between 17.2 in 1903 and 22 in 1890. On seven occasions the mortality-rate was above 21 per 1,000 during the last twenty-five years, while on four occasions it was below 19 per 1,000.

If climatic influences are taken into account, it may be said that the reduction in the death-rate during these twenty-five years has been disappointing.

As a means of graphically indicating year by year the extent of the increase or decrease in the death-rate, the percentage above and below the mean death-rate for 31 years has been calculated and set out on Chart No. 2.

Having briefly compared the rate for 1904, it is advisable to ascertain how Birmingham stands with regard to the country as a whole, and with particular towns; and then to discuss some of the reasons for the small decline which has been taking place in this City.

Death-rates in Birmingham and in England and Wales

The mean mortality-rates in four-yearly periods in Birmingham and in England and Wales are as follows :—

Four-yearly periods.	Birmingham. Mean Rate.	England and Wales. Mean Rate.
1873 to 1876	25·1	21·7
1877 to 1880	22·8	20·8
1881 to 1884	20·9	19·5
1885 to 1888	19·8	19·0
1889 to 1892	20·8	19·2
1893 to 1896	20·0	17·9
1897 to 1900	20·5	17·8
1901 to 1904	18·6	16·2

Death-rates in 20 large towns.

The mortality-rates (uncorrected) for four years, together with the mean of these rates, is shown in the following table for the twenty largest towns in England and Wales.

DEATH-RATES IN TOWNS (FROM ANNUAL SUMMARY OF REGISTRAR-GENERAL).

	1901.	1902.	1903.	1904.	Mean.
London	17·6	17·7	15·7	16·6	16·9
Liverpool	22·3	22·5	20·5	22·6	22·0
Manchester	22·1	20·0	19·7	21·3	20·8
Birmingham	20·5	18·6	17·8	19·9	19·2
Leeds	19·3	17·6	16·6	18·0	17·9
Sheffield	20·4	17·1	18·6	16·8	18·2
Bristol	16·0	17·4	14·3	15·6	15·8
Bradford	16·8	15·8	16·4	17·6	16·6
West Ham	17·9	17·1	15·3	16·5	16·7
Hull	18·7	17·2	16·9	18·6	17·8
Nottingham	18·5	16·7	16·9	17·7	17·4
Salford	21·7	19·3	19·0	21·2	20.3
Newcastle	21·9	19·9	19·2	19·4	20·1
Leicester	15·9	14·9	14·2	14·5	14·9
Portsmouth	17·9	16·8	14·7	16·9	16·6
Cardiff	15·8	16·8	14·0	14·8	15·3
Bolton	18·2	16·9	17·5	16·9	17·4
Sunderland	21·4	19·5	19·9	19·5	20·1
Croydon	12·9	14·0	11·8	13·8	13·1
Oldham	19·6	19·1	18·6	18·2	18·9

"Corrected" death-rates.

The mortality among males is always higher than that among females; so also it is heavier among young infants and old people than among children and young adults. It follows, therefore, that for strict comparison these disturbing factors require to be taken into account in comparing the rates of mortality in different towns.

The Registrar-General has made the necessary correction to compensate for variation in age and sex distribution in seventy-six large towns, and has arranged them in order of unhealthiness, as judged by the death-rate.

In 1904 Liverpool had the highest corrected death-rate—24.18 per 1,000—while Birmingham was eleventh on the list, with a corrected rate of 21.39 per 1,000.

In 1903 Birmingham was twenty-first on the list, with a corrected mortality-rate of 19.13.

In 1902 it was nineteenth on the list, with a corrected rate of 20.04.

Large towns in the above list, like London, Leeds, Bristol, Bradford, Hull, Nottingham, Leicester, Cardiff, etc., show from year to year a mortality-rate considerably lower than that in Birmingham; while a few others, like Liverpool, Manchester, and Salford, as regularly show higher rates.

Death-rate in the Birmingham district

The fact that so large a part of the population of Birmingham (its healthiest population) have gone by natural growth into the districts outside the City boundary vitiates to some extent a comparison with other towns, as well as with the death-rates in previous years. There is probably no other centre of population in the United Kingdom where so large a proportion live in extra-municipal districts, and when this is taken into account the death-rate in Birmingham is better than it otherwise appears to be.

In the following table is given the population and mortality-rate for the City, and each district which is contiguous with it :—

DEATH-RATE IN BIRMINGHAM CENTRE.

	1904. Population.	1904. Deaths.	Death Rates.
*Birmingham	537,965	10,666	19·9
*King's Norton	66.667	702	10·6
*Yardley...	41,500	550	13·2
†Castle Bromwich ...	2,900	35	12·1
†Erdington	20,750	226	10·8
*Aston Manor	80.363	1,203	15·0
*Handsworth	59,634	702	11·8
*Smethwick	60,691	777	12·8
*Oldbury...	26.071	522	20·0
†Halesowen	23,574	359	15·2
Total—Birmingham and District	920,115	15,742	17·1

* Registrar-General. † Annual Report of Medical Officer of Health.

The death-rate in the Birmingham district for 1904 was, therefore, 17.1 per 1,000, as against 19.9 per 1,000 in the City only. If one leaves out Castle Bromwich, Smethwick, Oldbury, and Halesowen as not actual parts of the Birmingham centre, one gets a rate of 17.4 per 1,000, which perhaps more accurately represents the true rate for this district than does the rate for the City only. For comparing the mortality-rate of Birmingham with many of our other great towns, it would be more accurate to take this figure of 17.4 than that given by the Registrar-General.

In the appended chart will be found the death-rates for all the districts representing the Birmingham centre, those coloured in the deepest tints being the districts with the highest death-rates.

Death-rates in wards.

More important than the comparison between the mortality-rate of Birmingham, and those of other dis-

Death-rates in Wards (*continued*).

tricts, is the comparison of the constituent parts of the City with one another. For this purpose the death-rate in each Municipal Ward during the last six years, together with the mean for the same period, is shown in the following table :—

	Death-rate per 1000.						Mean of 6
Wards.	1899.	1900.	1901.	1902	1903.	1904.	years.
Rotton Park ..	18·2	17·8	16·1	14·4	13·9	17 2	16·3
All Saints'	17·6	19·6	17·5	15·5	15·7	17·9	17·3
Ladywood	19·8	19·2	20 0	17·3	17·8	20·1	19·0
St. Paul's	22·0	20·4	22·6	18·2	19·2	21·5	20·6
St. George's ..	23·8	26·3	23·2	21·6	20·8	21·5	22·9
St. Stephen's ...	26·6	26·3	26·6	26·5	21·0	24·7	25·3
St. Mary's... ..	30·7	30·4	29·7	24·8	23·1	24·1	27·1
St. Bartholomew's...	27·2	27·7	25 9	24·6	24·4	28·7	26·4
Market Hall ...	18·8	21·5	17·4	16·9	16·3	17·7	18·1
St Thomas' ...	22·9	20·9	20·9	20·1	18·7	18·0	20·3
St. Martin's ...	21·0	21·9	20 3	20·3	16·8	18·8	19·9
Edgbaston and Harborne	13·8	14 4	13·1	12·3	12·1	12·7	13·1
Deritend	24·4	26·0	22·3	20·3	21·5	22·0	22·7
Bordesley	15·5	15·8	15·4	13·4	13·3	15·2	14·8
Duddeston... ..	21·3	23·4	23·2	21·3	19·7	22·9	22·0
Nechells	22·5	21·9	22·6	18·7	16·9	22·9	20·9
Balsall Heath ...	17·5	16·0	15·0	14·8	13·5	14·8	15·3
Saltley	18·3	16·7	17·6	15·1	15·7	16·8	16·7
Whole City ...	20·5	21·0	19·9	18·0	17·2	19·3	19·3

It will be seen that during 1904 the mortality-rate in St. Bartholomew's Ward was no less than 126 per cent. higher than that in Harborne and Edgbaston Ward, while it was 89 per cent. higher than that in Bordesley Ward.

Among the causes of the varying mortality-rates in the Wards during 1904 may be counted the epidemic of Whooping Cough in the early part of the year, and the excessive prevalence of Epidemic Diarrhœa during the summer months. Both of these affected young children, but especially the latter, and as a consequence the mortality-rates at ages under five years were high.

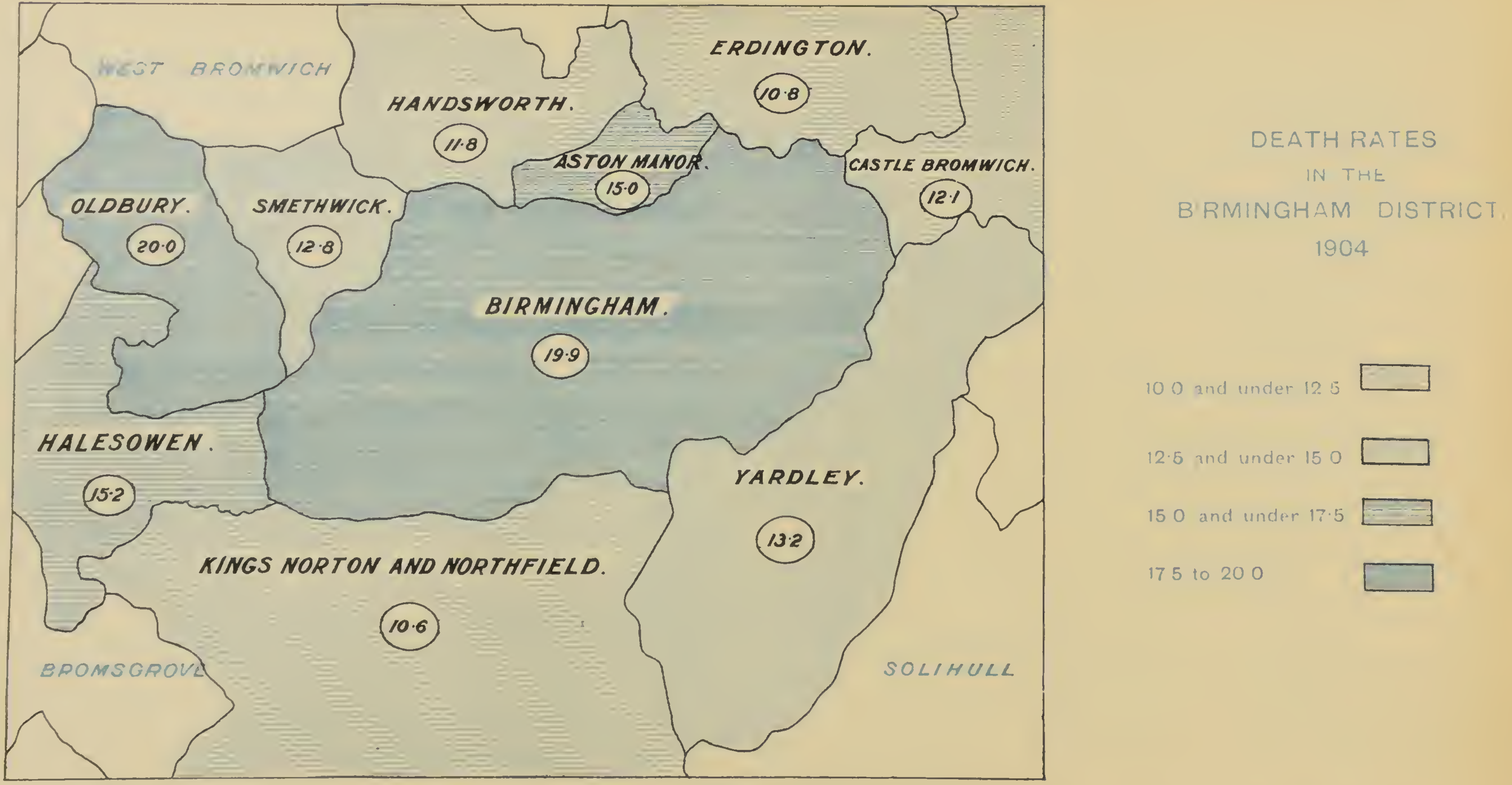
A special report on the high mortality in certain districts of the City was issued on October 25th, 1904, and is inserted as an appendix at the end of this report.

Death-rates at ages.

The death-rates in age groups are shown in the following table :—

	1899	1900	1901	1902	1903	1904
Under 1 year	250·3	245·7	228·3	192·5	189·8	232·8
From 1 to 5 years ...	26·2	26·4	29 3	26·6	23·1	29·3
" 5 to 10 " ...	3·6	3·4	3·5	4·7	4·0	4·2
" 10 to 15 " ...	2·4	2·3	1·8	2·3	1·8	2·0
" 15 to 25 " ...	3·6	3·9	3·7	3·5	3·0	2·9
" 25 to 45 " ...	9·5	10·1	9·2	8·3	7·8	7·7
" 45 to 65 " ...	28·4	29·4	27·9	26·6	24·0	25·5
Over 65 years	97·6	106·2	96·9	94·3	93·1	98·3

CHART No. 3.



DEATH RATES
IN THE
BIRMINGHAM DISTRICT
1904

INFANT MORTALITY.

Infant mortality

The death-rate among infants during 1904 was a very high one; no less than 3,302 infants under one year of age died, as compared with 2,668 in 1903.

If the diarrhœa season is taken alone, the number who died during 1904 was 1,139, as compared with 731 in 1903, so that there was an excess during this period alone of 408 deaths. From whooping cough also the excess over the previous year was great; it amounted to 173 deaths.

The infantile mortality-rate during 1904, based on the deaths under one year per 1,000 births, was 195. This is practically equal to the rate which occurred in 1875, while in four years only—1893, 1896, 1897, and 1900—was the infant mortality-rate higher than that for 1904.

Infant mortality and general mortality in wards.

In the next table is set out the ordinary death-rate of persons over one year of age in each ward, and also that of infants under one year per 1,000 of the population, together with the infant mortality-rate for each ward for the year of 1904.

WARDS.	General Death-rate per 1,000 persons living.			Infantile Mortality Rate per 1000 Births.
	All Ages.	Under one year.	Over one year.	
Rotton Park	17·2	5·6	11·6	178
All Saints'	17·9	5·7	12·2	173
Ladywood	20·1	6·2	13·9	192
St. Paul's	21·5	6·2	15·3	225
St. George's	21·5	8·0	13·5	213
St. Stephen's	24·7	8·8	15·9	232
St. Mary's	24·1	8·9	15·2	331
St. Bartholomew's	28·7	9·8	18·9	263
Market Hall...	17·7	4·0	13·7	187
St. Thomas'	18·0	6·2	11·8	196
St. Martin's	18·8	5·3	13·5	185
Edgbaston and Harborne	12·7	2·6	10·1	133
Deritend	22·0	7·3	14·7	208
Bordesley	15·2	4·5	10·7	146
Duddeston	22·9	8·0	14·9	217
Nechells	22·9	8·0	14·9	219
Balsall Heath	14·8	4·0	10·8	150
Saltley	16·8	6·3	10·5	178

The very large part which infant mortality plays in giving high death-rates in certain wards is well seen in the foregoing figures.

Chief causes of infant mortality.

CHIEF CAUSES OF DEATH OF INFANTS UNDER ONE YEAR IN BIRMINGHAM IN 1904 AND SIX PRECEDING YEARS.

Causes of Death	1898	1899	1900	1901	1902	1903	1904
Measles	42	53	35	62	37	50	47
Whooping Cough ...	104	74	129	81	122	37	210
Diarrhœa	534	670	475	634	327	462	764
Enteritis	424	442	331	154	78	84	92
Tubercular Diseases ...	94	91	114	129	98	111	93
Premature Birth	371	366	353	348	361	365	377
Debility and Marasmus ..	589	574	670	648	562	531	569
Convulsions	178	194	178	167	172	119	144
Bronchitis, Pneumonia, and Pleurisy	393	398	500	399	409	413	505
Suffocation	94	92	92	92	70	95	96
All other Causes	464	444	489	436	445	401	405
Total	3287	3398	3366	3150	2681	2568	3302

It will be seen from the above that the three groups of diseases which account for more than one half of the deaths are—

(*a*) Diarrhœa and Enteritis.
(*b*) Debility and Marasmus.
(*c*) Bronchitis and Pneumonia.

Infant mortality in large towns.

In his "Annual Summary" for 1904, the Registrar-General points out that of the 76 largest towns in England and Wales, those with the lowest infantile mortality were Hornsey 87, King's Norton 100, Hastings 108, Bournemouth 111, and Willesden 114: while the towns with highest mortality were Salford 192, Liverpool 196, Birmingham 197, Stockport 203, Hanley 212, and Burnley 229.

Birmingham does not usually take so unfavourable a position in the list of great towns as it has done during 1904, the reason being the coincidence of epidemic whooping cough in the same year as severe diarrhœa prevalence.

During the year 1904 a special report was presented on the prevalence of high infantile mortality in the City. This dealt in some detail with the causes of high mortality, and the means for its prevention. Under the heading of Diarrhœa Mortality will be found certain additional information in regard to the method of feeding infants in the City, and also of the method adopted in those cases where a death occurred—this information being obtained by the Health Visitors.

PREVALENCE OF INFECTIOUS DISEASES.

Zymotic death-rate

The deaths of 1,845 persons were due to the seven principal Zymotic Diseases during 1904, as compared with 1,233 in 1903. This gives a zymotic death-rate of 3.44 per 1,000 during 1904, as compared with 2.32 in 1903, and 2.60 in 1902.

Deaths from zymotic diseases.

The causes of death, together with the number of deaths and certain comparative figures, are as follows :—

DISEASE.	1904.	Average 1894 to 1903.	Above or below Average.
Smallpox ...	0	20	− 20
Measles ...	207	236	− 29
Scarlet Fever ...	65	122	− 57
Diphtheria ...	115	146	− 31
Whooping Cough...	467	231	+ 236
Typhoid Fever ..	36	107	− 71
Diarrhœa ...	955	628	+ 327
Whole Group ...	1,845	1,490	+ 355

Zymotic death-rate in large towns.

According to the Registrar-General's figures, there were 11 among the 76 great towns with higher zymotic mortality-rates than Birmingham in 1904. There were, therefore, 64 with smaller mortalities. The highest rates recorded were 4.10 in Hanley, 4.17 in Bootle, 4.21 in St. Helens, 4.37 in Salford, 4.57 in Warrington, and 4.66 in Liverpool. Among the great towns with small zymotic mortality-rates were: Bristol 1.61, Burton 1.33, Handsworth 1.35, King's Norton 0.79, Smethwick 1.23, Halifax 1.50, and Cardiff 1.80.

SMALLPOX.

Smallpox.

The cases of Smallpox which occurred during the year were eight in number, and represented seven separate importations of the disease as follows :—

First importation, labourer employed in King's Norton Urban District.
Second importation, girl from Leicester.
Third importation, man from South Shields.
Fourth importation, man from Derby.
Fifth and sixth importations, woman and child from Derby.
Seventh importation, labourer from Worcester.

The value of the means which have been provided in Birmingham for dealing with such imported cases is demonstrated by the fact that only one subsequent case resulted from these seven imported cases. It is possible, of course, that in future outbreaks will take place on account of there being no means of making certain that unrecognised cases of the disease are not overlooked; but so far as recognised cases of this disease are concerned, there ought to be little or no difficulty now in dealing with this disease. In saying this, however, one ought not to forget that in the main our immunity from Smallpox is due to the condition of vaccination in the population.

A block plan of the smallpox hospital as it existed at the end of 1904 will be found at the end of this report, together with a block plan of the shelters which were added during the year to enable us to deal with the disinfection of people who had been in contact with smallpox cases. In the report for last year mention was made of these shelters and the use to which they were to be applied.

For the purpose of continuing our previous record, a table is printed below, showing the condition of vaccination of each of the persons admitted into the smallpox hospital during the year:—

	Number of Cases showing Vaccination Cicatrices.	showing none.
Under 1 year of age	0	0
From 1 to 5 years	0	1
" 5 to 10 "	0	0
" 10 to 20 "	1	0
" 20 to 60 "	5	1
Over 60 years	0	0

None of the Smallpox cases proved fatal.

VACCINATION.

Vaccination.

The percentage of primary vaccination in Birmingham, as compared with that in England and Wales, is indicated in the following table, which shows the number of children not finally accounted for (including cases postponed) per cent. of births:—

	Registration Districts of			
	Birmingham	Aston.	King's Norton.	England and Wales.
1884	2·4	5·5	2·1	5·5
1885	4·3	6·8	2·8	5·8
1886	4·6	7·6	2·5	6·4
1887	5·5	8·6	3·0	7·1
1888	4·9	8·7	4·3	8·5
1889	5·8	9·1	4·7	9·9
1890	5·8	10·1	5·5	11·3
1891	8·3	13·5	11·0	13·4
1892	7·9	13·7	19·2	14·9
1893	6·5	12·1	21·3	16·1
1894	8·0	13·2	27·3	19·2
1895	7·6	11·9	23·3	20·5
1896	7·7	11·4	19·1	22·9
1897	9·0	11·5	25·7	22·7
1898	14·6	17·5	28·5	21·5
1899	16·7	14·8	23·2	17·2
1900	15·4	13·2	18·3	15·6

The comparable figures for the years 1901 to 1904 are not yet available. The local figures for the year ending June 30th, 1904, are as follows; these, however, are subject to correction :—

Birmingham, year ending June 30th, 1904.

Births returned	17,154		
Died unvaccinated	2,253		
Conscientious objections ...	82 or	0·5%	of total.
Successfully vaccinated	13,035 or	87 5	of survivors.
Postponed by medical certificate	245 or	1·6%	,,
Removed to other vaccination districts	181 or	1·2%	,,
Lost sight of	1,130 or	7·6%	,,
Still under notice	183 or	1·2%	,,

MEASLES.

Measles.

This disease caused 207 deaths, compared with 195 in 1903. The number of deaths in each of the previous ten years is stated in the following table :—

DEATHS FROM MEASLES.

1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
316	133	310	414	182	196	130	300	189	195	207

Measles at ages.

The ages at death during the last two years were as follows :—

	1903	1904
Under 1 year	50	47
1 and under 2 years	74	75
2 " 3 "	26	37
3 " 4 "	21	18
4 " 5 "	12	11
All under 5 "	183	188
5 and under 10 "	12	17
All over 10 "	0	2

In a large city like Birmingham the infection of measles is never absent. At certain times of the year the fatality-rate from the disease is less than at others, so that from the mortality alone we cannot have any exact idea of the number of cases in the City. The information which the school attendance officers supply is most useful as far as it goes, but it is unreliable as giving the number of cases existing in the City at any one time.

The point that is important is the fact that Measles does cause annually an enormous mortality in the City of Birmingham among children under four years of age. It is desirable, therefore, that every care should be taken to prevent the infection of Measles among very young children, Measles complications.

The deaths during 1904 occurred mainly as the result of some lung trouble complicating measles. The number of such complications is set out for 1903 and 1904 in the following table :—

	1903	1904
Measles and Pneumonia	39 ...	55
Measles and Broncho-pneumonia ...	59 ..	83
Measles and Bronchitis	18 ...	21
Measles and other complications ...	24 ...	17
Measles alone	55 ...	31

Measles at schools

The infants' department at Ada Street Council Schools was closed on December 13th as the result of information that an acute outbreak of the disease was taking place in the school. From what subsequently occurred it appeared that the closure was beneficial. In this case the information from the attendance officers was of considerable value, and enabled the Health Visitors to give instructions at the infected houses and keep the children partly under control.

The circular of precautions which was approved by your Committee has been sent to each house where it was ascertained that a case of measles existed.

SCARLET FEVER.

Scarlet fever

The number of cases of illness from Scarlet Fever notified during 1904 was 1,659, as compared with 2,835 in 1903. The numbers in each of the previous years since the Infection Disease (Notification) Act came into operation are set out in the following table :—

Year.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Notified Cases	2995	1466	1418	1614	1788	2964	3389	1929	1320	1255	2063	3314	5044	2835	1659
Deaths ...	209	91	68	68	75	133	154	95	47	29	93	156	293	144	65
Percentage Mortality...	7·0	6·2	4·8	4·2	4·2	4·5	4·5	4·9	3·6	2·3	4·5	4·7	5·8	5·1	3·9

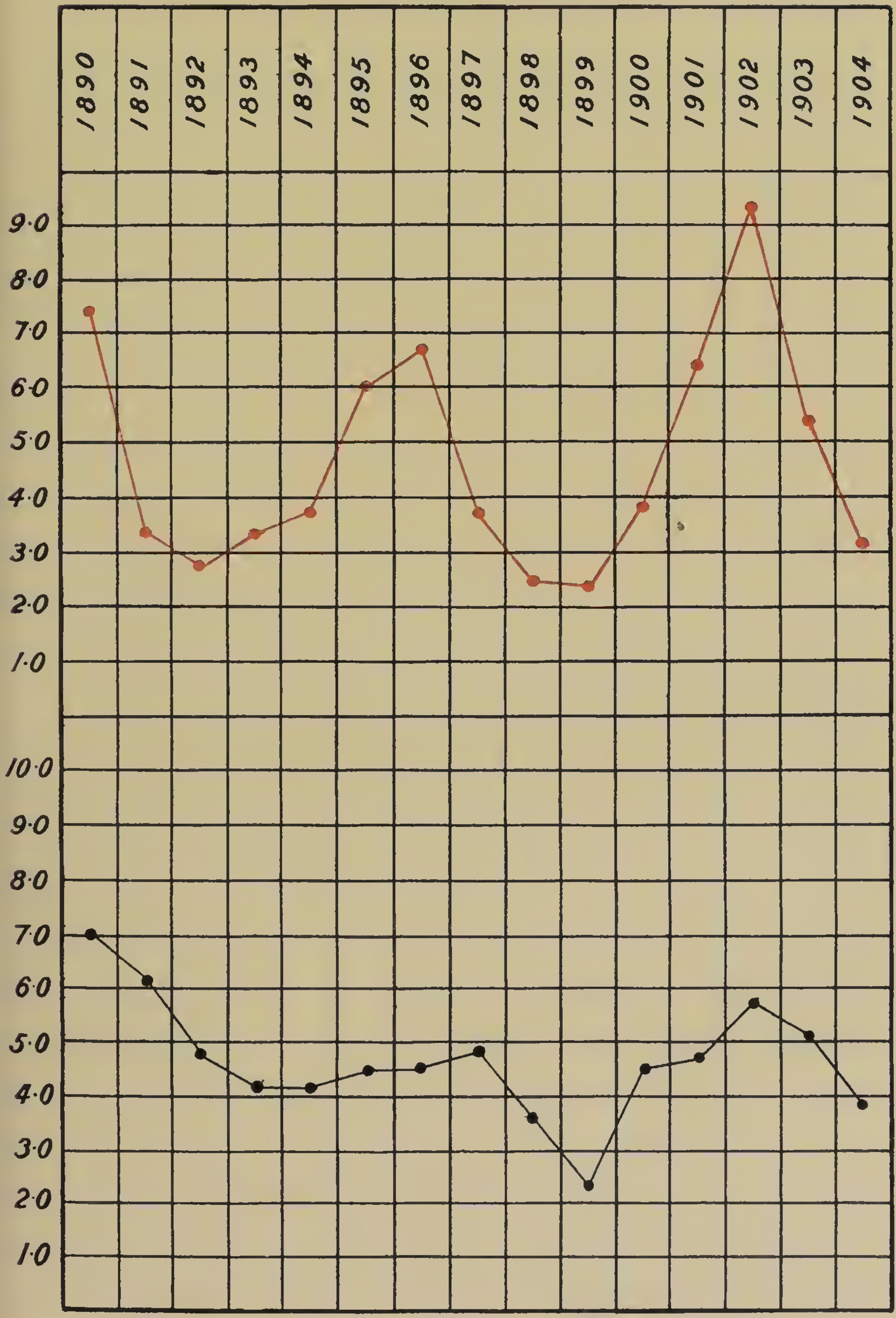
The number of deaths registered during the year was 65. Basing a fatality-rate on the notified cases, the fatality was 3.9 per cent., as compared with 5.1 in the previous year. It will be seen from the above table that in 1898 and 1899 the fatality-rate was a lower one than in 1904, but that except in these two years the rate for 1904 was a smaller one than in any of the other years since notification came into operation.

Scarlet fever in wards.

In the next table the sickness-rate per 1,000 of the population in each of the municipal wards for the last six years, together with the mean rate in each ward, is shown :—

CHART No. 4.

SCARLET FEVER.



SICKNESS-RATE PER 1,000. ━━

FATALITY-RATE PER CENT ━━

SCARLET FEVER SICKNESS RATES.

Ward.	1899.	1900.	1901.	1902.	1903.	1904.	Mean of 6 years
Rotton Park ...	4·66	3·85	5·17	13·95	6·46	4·32	6·40
All Saints'	2·37	3·98	6·78	9·18	5·08	3·44	5·14
Ladywood	2·94	4·25	4·54	11·43	4·83	4·39	5·40
St. Paul's	1·23	1·35	8·09	6·50	3·28	2·43	3·81
St. George's ...	1·21	5·47	6·42	4·70	4·75	4·07	4·44
St. Stephen's ...	1·19	2·35	5·47	4·04	3·92	3·60	3·43
St. Mary's	1·09	1·86	6·86	7·50	2·71	1·26	3·55
St. Bartholomew's...	2·56	5·22	6·63	8·15	4·41	2·29	4·88
Market Hall ...	1·27	1·57	3·77	6·59	4·85	2·07	3·35
St. Thomas' ...	2·03	3·04	4·53	12·22	4·90	2·77	4·91
St. Martin's ...	2·97	5·68	5·80	8·51	4·09	2·78	4·97
Edgbaston and Harborne	2·47	2·15	5·04	7·88	2·84	2·52	3·82
Deritend	1·66	4·93	7·73	14·36	4·91	2·78	6·06
Bordesley	3·31	5·08	10·13	10·59	7·07	2·57	6·46
Duddeston... ...	1·96	2·43	6·19	8·84	4·34	2·17	4·32
Nechells	2·69	4·87	2·50	7·58	5·31	2·07	4·17
Balsall Heath ...	1·81	3·60	7·24	9·08	6·84	4·16	5·45
Saltley	2·56	4·83	5·56	8·99	7·64	3·06	5·44

It will be noted that the incidence of Scarlet Fever is by no means greatest in the poorer-class districts in the City. When it is remembered that in these central poorer-class districts the children live in court-yard houses, and, therefore, other things being equal, the contact is greater, and also that more carelessness as regards recognising cases is displayed in these districts, it is rather remarkable that year after year Scarlet Fever should be somewhat less prevalent in these districts than it is in better-class ones. The above figures show that Market Hall, St. Stephen's, and St. Mary's Wards have a smaller incidence than Edgbaston and Harborne Ward. In the report on the "Floodgate Street Area" which was issued during the past year, it was pointed out, however, that while the incidence of the disease may be less in the poorer-class districts, the fatality is greater.

Scarlet fever cases removed.

One thousand four hundred and thirty-seven cases were removed into hospital during the year. This is equal to a percentage removal of 87. In the previous year about the same percentage of patients were admitted into hospital.

PERCENTAGE OF CASES REMOVED TO HOSPITAL.

	Cases Reported.	Cases Removed.	Percentage.
1893	1614	1339	83 %
1894	1788	1539	86 %
1895	2964	2595	88 %
1896	*3389	*2812	83 %
1897	1929	1641	85 %
1898	1320	1083	82 %
1899	1255	1052	84 %
1900	2063	1814	88 %
1901	3314	2959	89 %
1902	*5044	*4534	90 %
1903	2835	2455	87 %
1904	1659	1437	87 %

* 53 weeks.

Dr. McCrindle has carefully enquired for me into certain particulars in regard to the cases of Scarlet Fever which have occurred during the year, and has obtained useful information on many points.

I.—MISTAKEN DIAGNOSIS.

Scarlet fever and mistaken diagnosis.

In the first instance, it was found that a certain percentage of those who were removed into hospital did not suffer from the disease as diagnosed. Among the cases notified during the year, 1,445 were removed into hospital, and out of this number 130 were found by Dr. Chatelier or Dr. Beazeley not to be suffering from Scarlet Fever at the time of their admission, that is, 9 per cent. of cases wrongly diagnosed. Among the home-treated cases, five were reported by medical men as not eventually proving to be Scarlet Fever, barely 2½ per cent.

This question of wrong diagnosis in regard to cases of Scarlet Fever is one of very great importance where the question of hospital isolation is concerned. In the first instance, it must be borne in mind that it is sometimes a matter of extreme difficulty amounting even to impossibility, on the part of the medical man to be quite certain that a particular case is one of Scarlet Fever. At the same time, the medical practitioner is urged by both parents and sanitary authority to isolate at the very earliest period. Notwithstanding the fact that the Health Committee have arranged that one of the Superintendents from the hospital shall see any doubtful cases for medical practitioners in the City, we have this comparatively large amount of error to deal with.

Figures are not available on exactly similar lines to compare the amount of error in other towns with that in Birmingham, but this question of wrong diagnosis is one of the difficulties recognised by all infectious hospital authorities.

II.—SO-CALLED RETURN CASES.

Scarlet fever "return" cases.

Another investigation which Dr. McCrindle has carried out during the year is in regard to "return" cases of Scarlet Fever. It is somewhat difficult to define what is a "return" case of Scarlet Fever, and therefore one has to state in the first instance what has been accepted here as a "return" case. All new cases of Scarlet Fever which have occurred either in the same house or from contact with it within a period not less than 24 hours nor more than 28 days after the return of a previous patient from the hospital, have been counted as " return " cases.

During the year 67 such cases were investigated, said to have resulted from the discharge of 66 infecting cases. There is no doubt whatever that certain of these so-called " return " cases were not due to the hospital; indeed, some of them proved not to be scarlet fever when admitted to hospital, although they were notified as such.

In the 67 so-called " return " cases which have been investigated, the number of days between the return of the supposed infecting patient and the onset of the subsequent patient's illness was as follows :—

2 days	4 cases.
3 "	10 "
4 "	1 "
5 "	3 "
6 "	8 "
7 "	1 "
8 "	5 "
9 "	5 "
10 "	2 "
12 "	5 "
13 "	4 "
14 "	1 "
15 "	2 "
16 "	1 "
17 "	1 "
18 "	2 "
19 "	1 "
20 "	3 "
21 "	2 "
22 "	1 "
23 "	1 "
26 "	1 "
? "	3 "

The 66 cases to which so-called " return " cases were attributed suffered from the following complications while in hospital or after their discharge :—

	While in Hospital.	After Discharge.
Ottorrhœa	6	6
Mastoid Abscess	1	—
Glandular Enlargement	10	12
Nasal Discharge	14	14
Secondary Throat	3	—
Albuminuria	4	—
Nephritis	1	—
Second Attack	4	—
Sores or Abrasions, &c.	20	22
Intercurrent Infectious Diseases	9	

In four instances the supposed infecting case had proved not to be one of scarlet fever, and in one instance the so-called " return " case was not scarlet fever.

The Medical Superintendents have supplied me with the number of days that the so-called infecting patients had remained in hospital :—

Less than 20 days	0
20 to 30 days	1
30 to 40 "	1
40 to 50 "	17
50 to 60 "	17
60 to 70 "	12
70 to 80 "	7
80 to 90 "	4
90 to 100 "	5
Over 100 "	2

It is obvious from the above that the Medical Superintendents at the hospital well appreciate the danger of such cases, and have taken precautions to get rid of any condition which might be liable to carry the disease. A point of considerable importance in this connection is that the patient who possibly acted as a source of infection in some instances came direct from the hospital and slept in the same bed with the " return " patient, notwithstanding the fact that instructions had been issued to the parents advising them not to allow such patient to sleep with other children for at least a fortnight after his return from hospital.

III.—SECONDARY CASES IN INFECTED HOUSES.

Secondary cases of scarlet fever.

Still another investigation in regard to Scarlet Fever has been made by Dr. McCrindle during the year, and, as the results are interesting, I have included them here. They relate to the occurrence of subsequent cases in dwelling-houses after a first case has been notified in that house.

For the sake of clearness it has been necessary to exclude the cases occurring in public institutions, and also those cases which, although notified in the first instance as Scarlet Fever, were found subsequently either at the hospital or by the medical man in attendance not to be Scarlet Fever.

By these exclusions the total number of cases dealt with has been reduced to 1,473. Of the 1,473 cases, 1,247 were first cases in the house, and 226 were subsequent cases.

At first sight these figures indicate that the action of the sanitary authority has been more successful than one would have expected in preventing the spread of Scarlet Fever. In no less than 1,042 out of 1,235 houses where a case of Scarlet Fever was notified during the year, no further spread of the disease occurred. This means that in over 84 per cent. of the dwelling-houses in Birmingham infected with Scarlet Fever, no spread took place after the first case.

The number of houses from which the first case went to hospital was 1,026, and in 868 of these no further spread occurred—a proportion of 84.6 per cent., while in the 190 houses in which the first case was nursed at home, the infection spread no further in 174 instances—a proportion of 91.6. Of course, these figures have no reference to the class of house nor to the number of presumably susceptible individuals, especially children brought into direct contact with the infection.

Dr. McCrindle is at present pushing his investigations further, with the view of elucidating as far as possible these latter and other details, so as to bring the facts to a basis which may render them more fairly comparable.

If it is possible to limit the infection of Scarlet Fever to one patient in each of 1,042 households out of a total of 1,235, it is somewhat difficult to explain why the disease should spread so rapidly from one household to another.

In the majority of instances the cases treated at home occur in that class of house where every precaution against spread of infection can and will be promptly taken, while more often the reverse is the rule in the house whence the patient is removed. Nor must it be overlooked that on the average removal to hospital has only taken place on the fourth day from the onset of the disease, though mostly on the same day as notification is received. It is as yet premature to forecast the results of this further enquiry, but so far the above facts are worth consideration.

DIPHTHERIA.

Diphtheria.

The cases of sickness from Diphtheria which were notified during the year were fewer than in the preceding year. Altogether 630 cases were reported, which is equal to a sickness-rate of 1.17 per 1,000, as compared with 1.66 per 1,000 in the previous year.

The mortality from the disease was, however, relatively a high one, no less than 115 deaths having occurred, which is equal to a fatality-rate of 18 per cent., as compared with 15 per cent. in the previous year.

The number of notified cases and deaths, together with the fatality-rate per cent., is set out in the accompanying table, from which it will be seen that the highest fatality-rate occurred in 1895, and that since then the rate has declined considerably, the rate for 1901 being, however, higher than in either of the preceding four years.

	DIPHTHERIA. Cases notified.	 Deaths registered	Case-mortality per cent
1892	533	102	19
1893	387	83	21
1894	406	91	22
1895	741	214	29
1896	*1,194	*293	25
1897	713	160	22
1898	689	132	19
1899	720	147	20
1900	542	77	14
1901	533	85	16
1902	*787	*130	17
1903	884	135	15
1904	630	115	18

*53 weeks.

Diphtheria and anti-toxin.

From all available information it would appear that the mortality from this disease is far too large at present. In a recent article on the subject of the treatment of Diphtheria in the April number of "The Practitioner," the following paragraph appears, which seems to put the position very concisely as regards the treatment of this disease. From personal experience and knowledge, the statements made appear not to be exaggerated in any way. The paragraph is as follows :—

"In the treatment of Diphtheria the fact to be grasped "beyond all others is this: Directly there is suspicion "that a case might possibly be Diphtheria, anti-diph-"theritic serum should be administered without delay "with proper precautions. Having done this first, we "may then have the suspicion of Diphtheria confirmed or "otherwise by bacterioscopic aid. Serum treatment "should never be deferred pending a bacteriological "report. . . . . . With our present-day knowledge that "Diphtheria is practically rendered *non-fatal if treated "with a suitable dose of diphtheria anti-toxin on the first "day of illness*, it is almost criminal to defer serum treat-"ment until a bacteriological examination has been "made."

There are no records to show the exact number of cases in which anti-toxin has been used during the year, but from experience of cases admitted recently into hospital it would appear that a comparatively small number of cases are treated with anti-toxin at an early stage, when its value is greatest. The Health Committee have authorised its free distribution to medical practitioners for treatment of patients residing in the City, and have on several occasions urged its early use. During the past year 251 applications were made for anti-toxin to be used mostly for the treatment of recognised cases of Diphtheria, but partly also for the immunisation of people in contact with the disease. If the whole of this supply had been intended for actual notified cases, the quantity issued during the year would be used by less than 40 per cent. of the cases, as compared with 35 per cent. in the previous year. Some further supply of anti-toxin has, of course, been derived from chemists in the town, but as far as is known this has not been a large quantity, and therefore it is probable that a considerable number of the patients are not treated with anti-toxin at all.

There ought to be at present no reason why nearly every notified case of Diphtheria should not be so treated. Were this done, there is no doubt that the mortality-rate would be considerably reduced. One has always to recognise that it is extremely difficult to be quite certain of one's diagnosis in the early stages of Diphtheria, but it has not, however, been generally recognised yet that the proper way of dealing with doubtful cases is to use anti-toxin under proper precautions first, and then to clear up the diagnosis by having the throat swabbed. If this were done in every case, the fatality from Diphtheria should fall to something less than 5 per cent. The cost of the anti-toxin supplied during the year was about £60.

Diphtheria and bacteriological examinations.

The facilities for bacteriologically examining material from the throats of persons possibly suffering from Diphtheria (which were brought into operation in June, 1897) have proved during the past year to be of great service in certain cases. Full use, however, of these has not been taken. Of the 630 cases notified during the year, only 102 were bacteriologically examined at the University. Of these 102, 70 showed diphtheria bacilli to be present; 31 gave a negative result; and one was doubtful. Altogether swabs to the number of 313 were examined during the year 1904 at the Pathology Department of the University from suspected cases within the City. On the basis of agreement with the University, the examination of these would cost £139 2s. 6d.

Diphtheria and hospital accommodation

Unfortunately, the hospital accommodation for diphtheria patients at Little Bromwich hospital was not finished during 1904, and it was only in the early months of 1905 that cases of the disease commenced to be taken in.

Diphtheria in wards.

In the figures appended will be found the sickness-rate and certain other information in regard to Diphtheria cases for each of the wards in the City :—

	Cases notified.	Sickness rate per 1,000.	Persons for whom anti-toxin was sent.
Rotton Park	67	1·41	28
All Saints'	49	1·14	16
Ladywood	52	2·06	16
St. Paul's	17	1·09	2
St. George's	10	0·49	2
St. Stephen's	10	0·42	1
St. Mary's	10	0·63	3
St. Bartholomew's	52	2·02	18
Market Hall	5	0·55	1
St. Thomas'	21	1·12	5
St. Martin's	26	1·06	10
Edgbaston and Harborne	37	1·18	17
Deritend	29	1·20	13
Bordesley	70	1·26	46
Duddeston	29	1·24	4
Nechells	27	0·81	5
Balsall Heath	47	1·17	17
Saltley	63	1·35	15

WHOOPING COUGH.

Whooping cough

With the exception of two other towns, Birmingham suffered during the year 1904 from a more severe epidemic of Whooping Cough than any of the 76 great towns. The death-rate in the City was .87 per 1,000, the number of deaths being 467.

Whooping cough in past 30 years.

In the following table the mortality-rate per 1,000 from this disease is shown for the past thirty years. It will be noted that the mortality-rate was higher during 1904 than in any year since 1887. There is, too, an indication that the epidemics of this disease have not been as fatal in recent years as during the earlier years of the period referred to.

1875	1·20	Average ·97	1890	·47	Average ·56
1876	·51		1891	·66	
1877	·98		1892	·59	
1878	1·19		1893	·66	
1879	·97		1894	·44	
1880	·55	Average ·67	1895	·35	Average ·48
1881	·90		1896	·76	
1882	·79		1897	·45	
1883	·43		1898	·50	
1884	·70		1899	·33	
1885	·61	Average ·59	1900	·58	Average ·51
1886	·23		1901	·42	
1887	·91		1902	·50	
1888	·56		1903	·47	
1889	·66		1904	·87	

Whooping cough at ages

The ages at death from Whooping Cough are set out in the following table :—

Under 1 year	210	deaths.
Between 1 and 2 years	138	"
" 2 " 3 "	55	"
" 3 " 4 "	37	"
" 4 " 5 "	16	"
" 5 " 6 "	5	"
" 6 " 7 "	4	"
" 7 " 8 "	1	"
" 8 " 9 "	1	"
Over 9 years	0	"
Total	467	

Whooping cough complications.

The principal complications recorded in the fatal cases of Whooping Cough can be seen in the following table, showing the actual causes mentioned in the death certificates :—

Whooping Cough and	Broncho-pneumonia	105	deaths.
" "	Pneumonia	66	"
" "	Bronchitis	75	"
" "	Diarrhœa	10	"
" "	Colitis	6	"
" "	Meningitis	6	"
" "	Phthisis	3	"
" "	Measles	2	"
" "	Rickets	2	"
" "	Diphtheria	2	"
" "	Nephritis	1	"
" "	Gastritis	1	"
" "	Cancrum Oris	1	"
" "	no other definite disease	187	"
	Total	467	

Whooping cough in wards.

The subjoined statement shows the death-rate from Whooping Cough in each ward of the City :—

Rotton Park	1·05 per 1000.
All Saints'	0·91 "
Ladywood	1·42 "
St. Paul's	1·34 "
St. George's	1·08 "
St. Stephen's	2·03 "
St. Mary's	1·26 "
St. Bartholomew's	0·74 "
Market Hall	0·33 "
St. Thomas'	0·53 "
St. Martin's	0·57 "
Edgbaston and Harborne	0·26 "
Deritend	1·08 "
Bordesley	0·52 "
Duddeston	0·98 "
Nechells	1·23 "
Balsall Heath	0·52 "
Saltley	0·66 "

Deaths from whooping cough in weeks

The great majority of the deaths occurred during a comparatively short period, as will be seen below :-

			Deaths from Whooping Cough.				Deaths from Whooping Cough.
Week ending	January	9th	4	Week ending	July	9th	4
"	"	16th	4	"	"	16th	6
"	"	23rd	7	"	"	23rd	4
"	"	30th	9	"	"	30th	6
"	February	6th	6	"	August	7th	9
"	"	13th	6	"	"	14th	4
"	"	20th	7	"	"	21st	8
"	"	27th	10	"	"	28th	3
"	March	5th	12	"	September	3rd	4
"	"	12th	5	"	"	10th	6
"	"	19th	19	"	"	17th	3
"	"	26th	21	"	"	24th	4
"	April	2nd	21	"	October	1st	3
"	"	9th	24	"	"	8th	1
"	"	16th	25	"	"	15th	1
"	"	23rd	32	"	"	22nd	3
"	"	30th	34	"	"	29th	2
"	May	7th	21	"	November	5th	1
"	"	14th	30	"	"	12th	1
"	"	21st	22	"	"	19th	2
"	"	28th	12	"	"	26th	2
"	June	4th	11	"	December	3rd	4
"	"	11th	12	"	"	10th	1
"	"	18th	7	"	"	17th	3
"	"	25th	6	"	"	24th	2
"	July	2nd	9	"	"	31st	4

Infectiousness of whooping cough.

It is now universally recognised that during the infectious period the poison of Whooping Cough is one of the most diffusible of all infections, and that, given susceptible material, it spreads with great rapidity both in schools, in court-yard property, etc.

In view of the fact that many children die from complications of Whooping Cough, special instructions were given to the Health Visitors to urge, in cases where a doctor was not in attendance, that the patient should be kept in bed during the early period of the disease. This, in addition to preventing the liability to catching cold and lung trouble, has also the advantage of being a form of isolation.

In the districts affected the Health Visitors made a house-to-house visitation, and distributed circulars of information or gave advice verbally in regard to preventing the spread of the disease. To a very large extent, however, our action in regard to cases of Whooping Cough in court-yard property in Birmingham is directed rather to preventing death than guarding against attacks of the disease, owing to the inability of the occupants of these houses to take proper means to avoid contracting it.

TYPHOID FEVER.

Typhoid fever.

This disease, which is always associated with filth in one form or another, and which in its endemic form is so often taken as a standard of the sanitary condition of a town, caused a very low incidence-rate, as well as a very low death-rate, during 1904; indeed, in both cases the rates were lower than have ever been previously recorded from Typhoid Fever in Birmingham.

The following table shows the number of notified cases, deaths, and percentage mortality from this disease in each of the years since 1894 :—

Years	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Notified Cases	511	436	483*	533	637	779	851	615	544*	348	248
Deaths	105	82	108*	89	113	119	1799	111	100*	66	36
Percentage Mortality	21	19	22	17	18	15	21	18	18	19	15

*53 weeks.

"Fever" in large towns.

Our mortality-rate from Typhoid Fever compares favourably with that in the other large towns. In London the rate from "Fever" was .07 per 1,000, Liverpool .15, Manchester .12, Birmingham .07, Sheffield .12, Leeds .11, and Bristol .08.

Typhoid fever and temperature and rainfall.

In continuation of the statistics given in last year's report, the following table will be of interest :—

	TYPHOID FEVER. Death-rate.	TYPHOID FEVER. Sickness-rate.	Mean Temperature in 3rd Quarter	Rainfall for year.
1887	·17	—	58·9	19·80
1888	·14	—	55·7	24 62
1889	·09	—	57·6	24·94
1890	·14	·66	58·0	22·10
1891	·18	·93	57·3	31·14
1892	·08	·54	57 0	25 60
1893	·19	1·00	60·0	20·76
1894	·21	1·04	54·9	25·52
1895	·17	·88	59·6	24·89
1896	·21	·95	57·7	22·27
1897	·18	1·06	58·3	28·21
1898	·22	1·25	58·7	20·15
1899	·23	1·52	61·2	25·12
1900	·35	1·64	60·2	29·09
1901	·21	1·18	60·7	22·64
1902	·19	1·01	57·1	25·98
1903	·12	·65	57·4	33·83
1904	·07	·46	58·8	21·94

What is most remarkable is the fact that, so far as our district is concerned, this continued low incidence of Typhoid Fever has occurred during a year which was relatively a bad one for epidemic Diarrhœa. The climatic conditions during the year were by no means unfavourable to the production of a good many cases of Enteric Fever, although the number which actually occurred was small.

Typhoid fever at different periods of the year.

The number of cases which have occurred during each four-weekly period in 1904 is shown in the following table, together with the average number for the corresponding periods during the previous 14 years :—

	1904.	Average in 14 years, 1890-1903.
Four weeks ending January 30th ...	12	15
" " February 27th ...	15	41
" " March 26th ...	14	38
" " April 23rd... ..	15	35
" " May 21st	24	30
" " June 18th... ...	9	25
" " July 16th	13	21
" " August 13th ...	15	24
" " September 10th ...	13	46
" " October 8th ...	28	51
" " November 5th ...	36	52
" " December 3rd ...	34	57
" " " 31st ...	20	50

The figures show that during 1904 the disease at no time became severely prevalent.

Typhoid fever in wards.

The sickness-rate from Typhoid Fever for each of the municipal wards during the last five years is shown in the following table :—

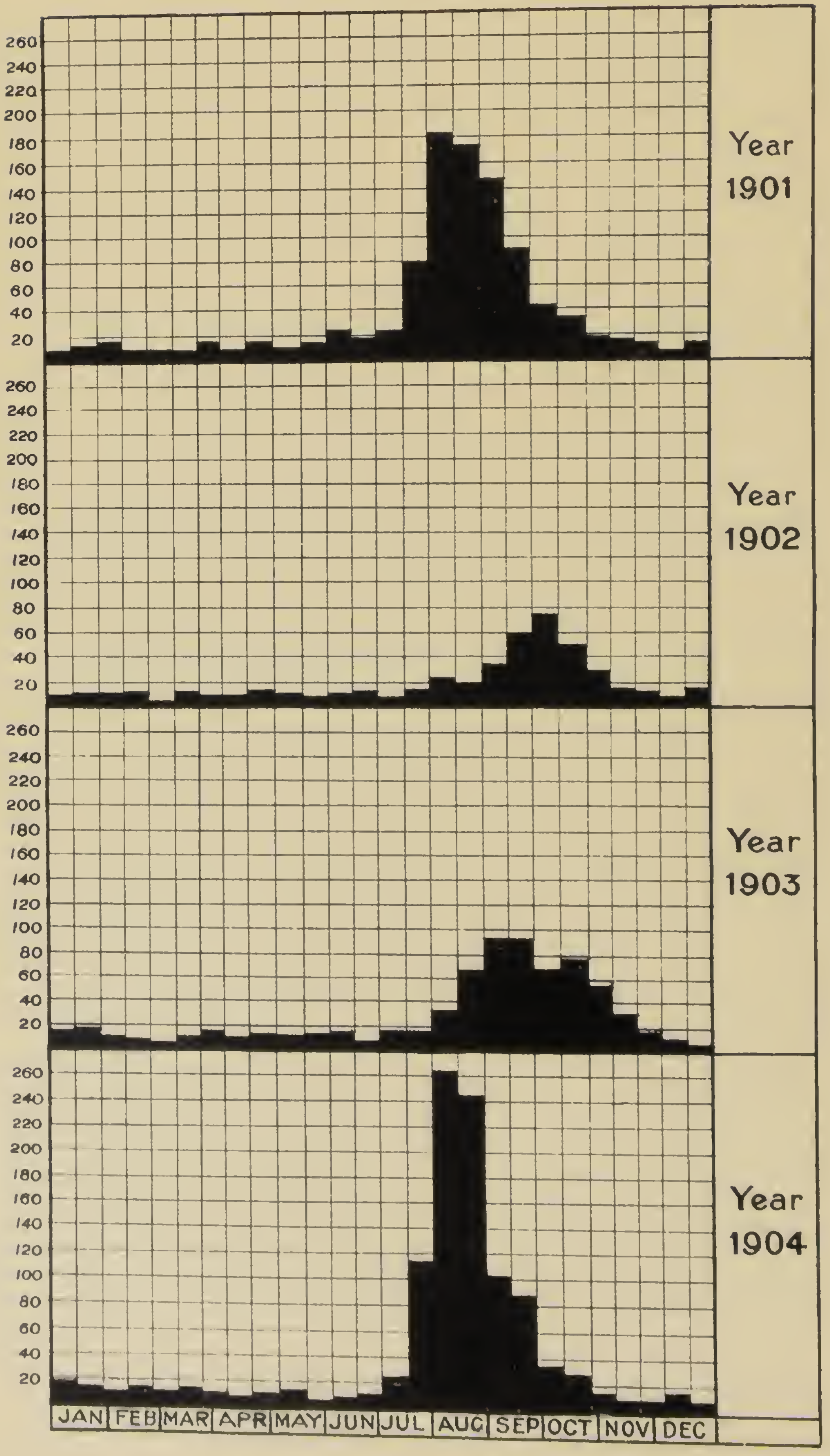
	1900.	1901.	1902.	1903.	1904.
Rotton Park	1·94	·94	·72	·47	·46
All Saints'	1·47	1·04	·91	·17	·30
Ladywood	2·11	1·08	1·07	·44	·36
St. Paul's	1·94	1·40	1·09	·71	·32
St. George's	2·05	1·73	1·52	·14	·59
St. Stephen's	2·99	2·02	1·01	·59	1·06
St. Mary's	2·41	1·83	1·00	·86	1·20
St. Bartholomew's	1·70	1·90	1·27	·79	·46
Market Hall	1·75	1·43	·63	·32	·22
St. Thomas'	1·84	1·35	1·24	·54	·53
St. Martin's	1·04	1·09	1·29	·16	·33
Edgbaston and Harborne ..	·59	·52	·45	·58	·26
Deritend	1·61	1·66	2·04	1·21	·70
Bordesley	1·12	·86	·92	·65	·38
Duddeston	3·13	1·51	1·30	1·15	·51
Nechells	2·23	·89	1·62	·98	·45
Balsall Heath ...	·70	·67	·67	·51	·42
Saltley	·71	1·19	·77	·66	·38

Typhoid fever cases removed.

Of the 248 cases of Typhoid Fever which were reported during the year, 118 were removed to the City

CHART No. 5.

Deaths from Diarrhœa and Enteritis in each Fortnight of the Years 1901, 1902, 1903, 1904.



Hospital, that is, about 50 per cent. Of the cases taken into hospital, 16 died of Typhoid Fever or other disease, equal to a fatality-rate of 14 per cent.; while of those treated at home or in other public institutions, 29 died, equal to a fatality-rate of 22 per cent.

Typhoid fever infection.

During the year no outbreak of Typhoid Fever occurred which could be traced to any common cause. Nearly all the cases were separate and distinct from one another, and, except in a few instances, they could not be traced to a previous case of the disease.

Widal's test.

The Pathology Department at the University examined 77 specimens of blood for the Typhoid Fever reaction, and reported that in 18 per cent. the blood gave a positive result. Of the notified cases, 8 per cent. had been examined in this way. The cost of this work during the year was £9 12s. 6d.

DIARRHŒA.

Diarrhœa.

The number of deaths from this cause during the summer of 1904 was a very large one. If one takes the two certified causes of death—Diarrhœa and Enteritis—(and this is probably the correct method to adopt in considering the diarrhœal mortality), no less than 1,110 persons died from this cause.

Diarrhœa at different periods of the year.

In the chart on the opposite page is set out in diagrammatic form the number of deaths from Diarrhœa and Enteritis during each fortnight of 1904 and the three preceding years.

What strikes one at once from such a representation is that during the early part of each of the years, and also at the latter end of each year, only a few deaths have been certified as due to these two causes, but that during the period of hot weather the number of deaths is enormously increased. It is probably fair to assume that on an average about ten deaths occur every fortnight from non-epidemic types of Diarrhœa and Enteritis; and if this number had continued uniformly throughout the year 1904, it would have given rise to about 260 deaths, so that it may safely be alleged that the remaining 850 deaths were due to Diarrhœa and Enteritis of a special and different type to that occurring in the earlier months. This latter group may well be called the "hot weather" group of Diarrhœa deaths.

Diarrhœa at ages.

In the accompanying table is set out the ages at death of the registered deaths from Diarrhœa and Enteritis during each of the four quarters of the year. It will be noted how different the figures for the third quarter are from those for the first and second quarters. For the sake of completeness, the deaths have been tabulated during the first year in months, afterwards in years up to ten, and then in quinquennial or decennial periods.

DEATHS FROM DIARRHŒA AND ENTERITIS.

	1st Quarter.	2nd Quarter.	3rd Quarter	4th Quarter.	Year.
Under 1 month ..	7	2	23	5	37
Between 1 and 2 months	10	4	48	7	69
" 2 and 3 "	11	5	74	11	101
" 3 and 4 "	12	5	90	12	119
" 4 and 5 "	8	2	94	8	112
" 5 and 6 "	5	7	73	9	94
" 6 and 7 "	1	4	78	8	91
" 7 and 8 "	3	1	52	4	60
" 8 and 9 "	4	2	45	2	53
" 9 and 10 "	2	1	38	4	48
" 10 and 11 "	2	2	27	6	37
" 11 and 12 "	2	2	26	5	35
Total under 1 year ...	67	40	668	81	856
Between 1 and 2 years ...	8	4	119	14	145
" 2 and 3 " ...	2	3	11	0	16
" 3 and 4 " ...	0	0	7	2	9
" 4 and 5 " ...	1	0	2	2	5
Total under 5 years ...	78	47	807	99	1031
Between 5 and 10 years ..	0	1	1	1	3
" 10 and 15 " ...	0	1	0	0	1
" 15 and 20 " ...	0	1	0	0	1
" 20 and 25 " ...	0	0	1	0	1
" 25 and 35 " ...	1	0	1	0	2
" 35 and 45 " ...	2	1	3	3	9
" 45 and 55 " ...	0	2	6	4	12
" 55 and 65 " ...	1	2	9	3	15
" 65 and 75 " ...	3	4	11	6	24
" 75 and 85 " ...	1	1	4	3	9
At 85 years and upwards	0	0	2	0	2
All ages	86	60	845	119	1110

Diarrhœa and temperature and rainfall.

The number of deaths which have occurred from Diarrhea and also from Enteritis, together with the mean temperature and rainfall, are set out below during a number of years :—

	Deaths during each year.				During 3rd Quarter.		
	Diarrhœa.	Enteritis	Total.	Death-rate per 1,000.	Mean Temperature.	Rainfall in inches.	Days with ·010 or more of rain.
1887 ...	550	60	610	1·46	58·9	5·62	31
1888 ...	305	60	365	0·87	55·7	9·58	49
1889 ...	465	56	521	1·23	57·6	6·62	39
*1890 ...	434	101	535	1·23	58·0	7·39	42
1891 ...	320	107	427	0·99	57·3	7·27	48
†1892 ...	443	104	547	1·13	57·0	9·22	41
1893 ...	828	200	1028	2·11	60·0	5·61	46
1894 ...	256	148	404	0·82	54·9	7·18	45
1895 ...	605	282	887	1·79	59·6	6·45	44
*1896 ...	589	309	898	1·76	57·7	7·33	47
1897 ...	923	521	1444	2·86	58·3	7·24	35
1998 ...	668	544	1212	2·37	58·7	4·50	21
1899 ...	831	580	1411	2·74	61·2	4·98	34
1900 ...	613	409	1022	1·97	60·2	5·43	31
1901 ...	792	206	998	1·91	60·7	5·91	26
*1902 ...	412	122	534	0·99	57·1	7·51	47
1903 ...	588	136	724	1·36	57·4	9·85	49
1904 ...	955	155	1110	2·07	58·8	5·75	31

* 53 weeks. † Enlarged City.

It will be noticed that the death-rate from this cause of death was greater during 1904 than in any of the other years during the period, except 1893, 1897, 1898, and 1899. From the above figures it will be seen that practically in the years with high temperature the mortality-rate is greatest. Mean temperatures, however, for such a purpose are somewhat misleading, as they do not altogether indicate the continuance of hot weather.

Diarrhœa in large towns.

Comparing the mortality-rate from Diarrhœa only in Birmingham with that in 14 of the largest towns, the Registrar-General gives the following figures in his Annual Summary :—

	1904.	Mean of 10 years 1894–1903.
London	1·04 ...	0·78
Liverpool	2·52 ...	1·42
Manchester	1·37 ...	1·34
Birmingham	1·76 ...	1·27
Leeds	0.99 ...	1·04
Sheffield	1·35 ...	1·42
Bristol	0·51 ...	0·62
Bradford	0·83 ...	0·80
West Ham	2·08 ...	1·23
Hull	2·08 ...	1·46
Nottingham	1·37 ...	1·18
Salford	1·66 ...	1·55
Newcastle...	0·51 ...	0·78
Leicester	1·31 ...	1·31

The lowest rates were recorded in King's Norton 0.24, in Hastings 0.30, and in Burton-on-Trent 0.33 ; the highest rates being 2.08 in West Ham and Hull, in Bootle 2.16, and in Liverpool 2.52.

One important point in examining the mortality-rate in other towns for last year is that in several instances the Diarrhœa mortality diminished instead of increased, as in so many of them. In this respect the conditions in Birmingham resemble those in the majority of other towns where an increase rather than a decrease was noted.

Diarrhœa in wards

So far as Birmingham is concerned, the mortality from Diarrhœa and Enteritis varied greatly in the different wards of the City, as indicated below. In St. Bartholomew's Ward it was no less than 4.3 per 1,000, while in St. Mary's and St. George's Wards it was over 3 per 1,000. It was lowest in Edgbaston and Harborne and Bordesley Wards.

WARD.	Death-rate from Diarrhœa and Enteritis.
Rotton Park	1·80
All Saints'	1·95
Ladywood	1·70
St. Paul's	2·30
St. George's	3·08
St. Stephen's	2·71
St. Mary's	3·60
St. Bartholomew's	4·30
Market Hall	1·42
St. Thomas'	1·97
St. Martin's	1·72
Edgbaston and Harborne	1·12
Deritend	2·73
Bordesley	1·22
Duddeston	2·47
Nechells	2·34
Balsall Heath	1·42
Saltley	1·69

Special enquiry into diarrhœa deaths.

The information which can be obtained from the registration figures as to causes of death is not, however, as valuable as the information which has been obtained from enquiry made by the Health Visitors into the conditions which exist at the houses where Diarrhœa deaths have occurred. This enquiry was not commenced till the beginning of the third quarter, and therefore only relates to a portion of the deaths. Again, in the case of those persons who died from Diarrhœa and Old Age, or from Diarrhœa and Tuberculosis, etc., no enquiry was made; indeed, so far as the following figures are concerned, the enquiry has been limited to children under five years of age. In a few instances the parents or relatives of the deceased had removed or gone away to the country immediately after the death, so that information in respect of these was not available, and therefore the group enquired into does not include all those under five years of age. The enquiry embraced altogether an investigation into 798 deaths out of a total of 923 deaths which occurred

Special enquiry into diarrhœa deaths (*continued*).

during the year from Epidemic Diarrhœa or Zymotic Enteritis, or one of the synonyms of these diseases, among children under five years of age. In some few cases, however, only a part of the information required could be obtained.

Mortality from Diarrhœa in Relation to Sex.

Male infants die from these two causes of death more frequently than do female infants. This occurs at practically all age groups, as will be seen from the tabular statement below, showing the number of males and females (at each age group up to five years) who died from Epidemic Diarrhœa and Zymotic Enteritis from July to December (inclusive), 1904 :—

DEATHS FROM DIARRHŒA.

Age	Males.	Females.	Total.	Excess of Males over Females.	Excess of Females over Males.
Under 1 month	15	4	19	275%	—
1 month & under 2 months	47	29	76	62%	—
2 months ,, 3 ,,	43	54	97	—	26%
3 ,, ,, 4 ,,	53	51	104	4%	—
4 ,, ,, 5 ,,	51	28	79	82%	—
5 ,, ,, 6 ,,	39	37	76	5%	—
6 ,, ,, 7 ,,	36	32	68	12%	—
7 ,, ,, 8 ,,	16	20	36	—	25%
8 ,, ,, 9 ,,	18	24	42	—	33%
9 ,, ,, 10 ,,	16	15	31	7%	—
10 ,, ,, 11 ,,	14	11	25	27%	—
11 ,, ,, 1 year	15	17	32	—	13%
1 year & under 2 years	53	42	95	26%	—
2 years ,, 3 ,,	5	4	9	25%	—
3 ,, ,, 4 ,,	4	5	9	—	25%
4 ,, ,, 5 ,,	—	—	—	—	—

Clearly the above figures show that in respect of these diseases male infants are more liable to the disease in its fatal form, every allowance being made for the fact that more males are born than females. (During 1904 there were 110 males born for every 100 females.)

Previous Health of Infant.

During the enquiry the Health Visitors ascertained in each case whether the child was in good health before the fatal illness commenced, or in indifferent or bad health. The results confirm clinical experience and former similar enquiries that the largest number of children attacked are in good and robust health at the time. This disease does not, therefore, kill off the weakly, but is particularly fatal among the healthy children.

Special enquiry into diarrhœa deaths (*continued*).

Previous Health of Infants.	July, Aug., and Sept.	Oct., Nov., and Dec.	Total
Good Health	367	32	399
Indifferent or Doubtful Health ...	158	20	178
Bad Health	201	20	221

House Accommodation in relation to Deaths from Diarrhœa.

One of the most interesting facts brought out by the Health Visitors' Enquiry is that for practical purposes all the deaths occurred in the small houses occupied by the artisan classes, that is to say, this enormous mortality among infants is limited to the working classes. No deaths occurred in any middle-class or better-class houses during the time of the enquiry. In a few instances cases were investigated of deaths in houses of six, seven, or eight rooms, but in each of these there were special circumstances which brought them within the meaning of artisan houses.

In the table following, the deaths in each Health Visitor's district are set out in relation to house accommodation.

NUMBER OF DEATHS IN HOUSES OF VARIOUS SIZES.

District.	1 room	2 rooms	3 rooms	4 rooms	5 rooms	6 rooms	7 rooms	8 rooms	Over 8 rooms
1	1	2	38	19	1	1	—	—	—
2	1	1	39	4	2	—	—	—	—
3	—	3	46	6	1	—	1	1	—
4	—	6	51	12	4	—	—	—	—
5	—	—	65	17	2	—	—	—	—
6	—	3	46	18	1	—	1	—	—
7	2	2	58	4		—	1	2	—
8	1	2	57	29	3	—	—	1	—
9	—	1	66	20	3	—	2	—	—
10	—	—	32	3	1	—	—	—	—
11	2	—	25	5	2	—	1	—	—
12	—	2	51	16	2	—	—	—	—
Total	7	22	574	153	22	1	6	4	0
Number of houses in Birmingham, Census 1901 ..	1085	4054	34753	14742	55,308				
Houses of each class invaded with fatal Diarrhœa per 1000	6·5	5·4	16·5	10·4	6				

Special enquiry into diarrhœa deaths. (*continued*).

In a general way it has always been recognised that Diarrhœa in its fatal form was more prevalent among the poorer classes than among the better classes, but the foregoing statement gives this general impression in a much more accurate form. Indeed, it indicates very clearly that, for one reason or another, the middle and better classes are able to prevent their infants from contracting this fatal disease, whether the children be breast-fed or bottle-fed. It also clearly indicates that effort in the direction of preventing the spread of the disease must be chiefly directed among the working classes—98½ per cent. of the deaths having occurred in houses of five rooms or under, and only 1½ per cent. in houses of over five rooms.

The distribution of deaths occurring during the whole year will be found on page 86, but the information gained from such a table does not so clearly indicate the house condition as does the above statement.

The Cause of Death.

The causes of death were certified to be as follows :—

Diarrhœa alone	92
Epidemic Diarrhœa	135
Epidemic Enteritis	336
Infantile Diarrhœa	3
Summer Diarrhœa	11
Gastro-intestinal Catarrh	—
One of the above with—	
Vomiting	3
Convulsions	76
Dentition	6
Debility, Marasmus or Exhaustion	121
Meningitis	15
Other causes	34

For practical purposes all the causes of death in this list may be taken to be one and the same, and probably should be classed as Epidemic Enteritis. It may be here pointed out that this disease is just as definite and specific in its nature as is Measles, Scarlet Fever, or any of the other epidemic diseases, diarrhœa being one of the most characteristic of its symptoms. The specific germ or germs which cause it have not as yet been recognised, although a good deal of investi-

Special enquiry into diarrhœa deaths (*continued*).

gation work is being undertaken to find out what germ actually causes it. Recently a number of investigators in America have ascertained the presence of Bacillus Dysenteriæ in 63 per cent. of the cases of this disease, and they state that there appears to be some evidence of the presence of this germ in the normal intestine.

Duration of the Disease.

The Health Visitors made careful enquiry as to the duration of the illness in each case. The time was recorded from the first symptom of illness until death occurred. These times are as follows:—

Duration of Illness.	
1 day or less	100
1 to 2 days	96
2 „ 3 „	73
3 „ 4 „	71
4 „ 5 „	47
5 „ 6 „	34
6 „ 7 „	56
7 „ 8 „	29
8 „ 9 „	21
9 „ 10 „	26
10 „ 21 „	131
Over 21 „	112

The illness is therefore in a great many cases of very short duration, the most severe and rapid cases occurring during the height of the epidemic period. It will be obvious from the above that, if treatment is to be of any use, it must be commenced as soon as the signs of the disease manifest themselves. There is a tendency among all classes of the community to put off sending for assistance in what is thought may be but a simple ailment. This disease, however, is so fatal and so prevalent among the poorer working classes that there seems to be a necessity for special charitable effort being made to give free, or at a nominal charge, the necessary help during the few weeks that the disease is prevalent.

The Food of the Infants who Died.

This is so important in relation to the incidence of fatal Diarrhœa that the details of the cases investigated during the Third Quarter are given on the opposite page.

METHODS OF FEEDING THE INFANTS UNDER SIX MONTHS OLD, WHO DIED DURING THE THIRD QUARTER OF 1904.

AGE.	Number of Deaths.	Breast Alone.	Breast with Spoon Food.	Breast with Bottle.	Bottle with Cow's Milk Alone.	Bottle with Cow's Milk and other Foods.	Bottle with Condens'd Milk only.	Bottle with Condens'd Milk and other Food.	Other Foods from Bottle or with Spoon.	Boat Bottle used.	Tube Bottle used.
Under 1 month	17	8	—	—	7	1	1	—	—	3	6
1 and under 2 months	68	13	1	12	31	4	4	1	2	11	43
2 " 3 "	87	1	4	12	46	17	5	—	2	18	62
Total under 3 months	172	22	5	24	84	22	10	1	4	32	111
3 and under 4 months	96	8	7	8	52	7	7	4	3	20	58
4 " 5 "	69	4	1	12	26	18	5	3	—	8	56
5 " 6 "	71	3	1	6	32	20	3	4	2	11	54
Total 3 to 6 months	236	15	9	26	110	45	15	11	5	39	168
Total under 6 months	408	37	14	50	194	67	25	12	9	71	279

Special enquiry into diarrhœa deaths (*continued*).

Of the children under three months of age who died, 22 were breast-fed alone, while 29 had breast and other food, and 121 had other food alone.

Of the children between three and six months who died, 15 were breast-fed only, 35 had breast milk and other food, and 186 had other food alone.

Of all children under six months old, 37 were breast-fed alone, and 371 had other food.

There is no exact method of estimating the number of infants under six months old and the number fed at the breast or otherwise, and it is therefore impossible to state the precise death rates from Diarrhœa of those fed in particular ways. A fairly accurate idea, may, however, be obtained by a method which has been recently suggested. During the second and third quarters of the year 1901 there were 8,394 babies born. In a local enquiry in 1903 it was found that among 1,000 babies who were not suffering from any illness there were :—

567 babies breast-fed alone.
288 ,, having breast milk and other food.
145 ,, fed on other food alone.

Assuming that the same proportions held good among all babies in Birmingham—and there is every reason to believe that it did—there would be at one time the following number of babies under six months old—

4,759 babies breast-fed alone.
2,418 ,, having breast milk and other food.
1,217 ,, fed on other food alone.

It is now possible to work out the infant mortality per 1,000 births for children who died in the third quarter of the year, and who were under six months of age.

These were as follows :—

7·8 babies died per 1,000 births of breast-fed babies.
26·5 ,, died per 1,000 births of babies having breast and other food.
252·3 ,, died per 1,000 births of babies having no breast milk.

In Liverpool, with a limited number of cases, Dr. Hope found that among infants under three months old the incidence was 15 times greater among bottle-fed babies than among those who were breast-fed. When the whole of the babies in a town are taken, the figures are even more striking.

Special enquiry into diarrhœa deaths (*continued*).

One main indication from the above is that hand-feeding among the working classes should be discouraged up to eight or nine months, and that some better substitute that the present milk supply should be found in those cases where of necessity the infants must be hand-fed.

Several other questions have arisen out of this enquiry. In the first place, infants under six months old are in Birmingham fed at the breast in nearly 57 per cent. of the cases, while another 29 per cent. receive both breast and hand-feeding. Thus 86 per cent. of the mothers either partly or entirely breast-feed their infants. This is not what the general public imagine is taking place. There seems to be a popular belief that among the working classes the majority of infants are hand-fed.

Another popular error is that among the working classes the mothers give up breast-feeding without any legitimate reason. To a limited extent this may be true, but, from the observations which have been made by the Health Visitors, there was some definite and probably sufficient reason in the majority of cases. Exactly why these women gave up nursing, and the number of them doing so, is the subject of a further enquiry which is in progress at the present time.

Another interesting and well-ascertained fact was that the mortality was very high among those using a tube bottle. The numbers were as follows :—

BOTTLE-FED INFANTS DYING DURING THE 3RD QUARTER, 1904.

Age.	Boat-bottles.	Tube-bottles.
Under 3 months old ...	32 ...	111
3 to 6 months old	39 ...	168

Deaths in Families in which Diarrhœa Deaths occurred.

A point which strikes one as very suggestive is that in the families where a death had taken place there were records of previous deaths from Diarrhœa and other diseases among young infants. In one instance there had been 12 previous deaths—making 13 deaths altogether out of 16. In no less than 124 cases the death was that of an only child : the children of the ignorant young mothers appear to suffer heavily. The results obtained in this respect are set out below :—

FAMILIES IN WHICH DIARRHŒA DEATHS OCCURRED.

Families with	No. of Families in which there had been													Total No. of Families.
	1 death.	2 deaths.	3 deaths.	4 deaths.	5 deaths.	6 deaths.	7 deaths.	8 deaths.	9 deaths.	10 deaths.	11 deaths.	12 deaths.	13 deaths.	
1 child	124	...	...	...	...	...	...	...	...	...	...	...	...	124
2 children	104	21	...	...	...	...	...	...	...	...	...	...	...	125
3 "	66	41	4	...	...	...	...	...	...	...	...	...	...	111
4 "	40	36	21	2	...	...	...	...	...	...	...	...	...	99
5 "	32	19	18	10	2	...	...	...	...	...	...	...	...	81
6 "	7	19	16	13	5	...	...	...	...	...	...	...	...	60
7 "	1	10	6	8	3	2	...	...	...	...	...	...	...	30
8 "	2	1	7	4	5	7	3	1	...	...	...	...	...	30
9 "	1	1	2	3	5	4	1	...	...	...	...	...	...	17
10 "	...	...	3	...	2	1	...	...	1	...	...	...	...	7
11 "	...	...	...	...	2	2	...	...	...	1	...	...	...	5
12 "	...	...	...	...	1	...	...	1	...	1	...	...	...	3
13 "	...	...	...	...	...	...	...	1	1	...	...	...	1	3
14 "	...	...	...	...	...	...	...	...	1	...	...	...	...	1
15 "	...	...	...	...	...	...	...	...	...	...	1	...	...	1
16 "	...	...	...	...	...	...	...	...	...	...	...	...	1	1

OTHER ZYMOTIC DISEASES.

Influenza.

Influenza.—Sixty-eight deaths were due to Influenza, as compared with the following number of deaths in the previous 13 years:—

1891	244
1892	88
1893	123
1894	29
1895	121
1896	41*
1897	59
1898	89
1899	150
1900	185
1901	90
1902	76*
1903	63
1904	68

*53 weeks.

The deaths occurred at various ages. Seven were in children under ten years of age, 8 were in young adults from twenty-five to thirty-five, 17 in persons aged from thirty-five to fifty-five, and 36 in persons over fifty-five. Of the total number of deaths, 29 were males, and 39 females. Twenty-three deaths occurred during the first quarter, 14 in the second quarter, 7 in the third quarter, and 24 in the fourth quarter.

Erysipelas.

Erysipelas.—The number of cases and deaths from this disease which have occurred during each of the last ten years is set out below :—

	Cases.	Deaths.
1895	818	22
1896	782*	21*
1897	585	21
1898	637	15
1899	629	21
1900	678	26
1901	726	23
1902	762*	30*
1903	644	22
1904	597	29

*53 weeks.

It is extremely difficult to be quite certain that all the cases which ought to be reported are notified, and, on the other hand, there are probably a good many reported cases which should not be included in the group of cases to be notified as Erysipelas.

The figures set out above show that the deaths registered from this cause were 29 in number. Nearly all of them occurred among young infants or in adults over thitrty-five years of age. Eight deaths occurred in children under five years of age, while 20 occurred in adults over thirty-five years of age. The fatality-rate was 4.9 per cent., which is more than that of Scarlet Fever.

The distribution of the cases over the City was somewhat unequal, but it appears to vary from year to year. On an average of five years the distribution is fairly even, so that the infection is probably everywhere present, and attacks of the disease depend upon the degree of immunity, and also on the existence of some skin abrasion enabling the germ to enter the system.

The disease is one which it is difficult to deal with from the point of view of the sanitary authority. In certain cases, however, it is of extreme importance, as, for instance, in houses where women are about to be confined, or where children have to be vaccinated.

Puerperal fever.

Puerperal Fever.—Twenty-seven deaths were registered as due to Puerperal Fever, as compared with 21 deaths in the previous year. The notified cases and deaths are shown in the following table :—

	Cases.	Deaths.
1895	21	15
1896	31*	21*
1897	17	9
1898	24	14
1899	30	14
1900	39	26
1901	32	28
1902	35*	22*
1903	31	21
1904	36	27

*53 weeks.

From the above list it will be seen that about two out of every three notified cases of the disease died. During the last five years the fatality-rate per 100 notified cases was : —

1900	66·7 %
1901	87·5 %
1902	62·8 %
1903	67·7 %
1904	75·0 %

This fatality is, however, probably too high on account of a large number of cases escaping notification for one reason or another. There is, unfortunately, no good definition of the expression "Puerperal Fever," so that at the present time anything from the most trivial rise of temperature due to a slight abrasion up to the most severe general septicæmia may be counted as a case of Puerperal Fever. Among the milder cases it is almost certain that there is a difficulty in distinguishing them from many conditions which are not due to the absorption of septic matter.

If the number of deaths is divided into the number of children born during the year, then one death occurred from Puerperal Fever among every 626 mothers. It is to be hoped that the Midwives Act which is coming into operation will in time somewhat reduce the number of deaths. From all available information, however, it is likely that the statements which were made by the promoters of the Act were somewhat exaggerated in this respect, in so far as they alleged that there would be a reduction almost to the vanishing point of Puerperal Fever by the abolition of the untrained midwife.

Many cases came to the notice of the Health Committee during the year in which there seemed to be strong reasons for believing that, had proper hospital treatment been available for the patients, useful lives might have been saved. At the present time the only hospitals admitting such cases are those in connection with the workhouses, and it is scarcely reasonable to expect that persons of the artisan class would under any conditions avail themselves of this provision. Such cases, although regarded as infectious, could not be admitted into the City Fever Hospitals on account of the large amount of septic infection which always exists in such places. It therefore seems desirable that some institution should arrange to admit these cases for proper treatment. Were this done and made generally known amongst the medical profession, there is no doubt that a certain number of lives of mothers would be saved every year.

Child-birth.

In continuation of this subject, it may be noted that the number of deaths of mothers during child-birth from diseases or accidents other than Puerperal Fever was 28, so that altogether the deaths of 55 women took place during the year from diseases or accidents during child-birth, which gives a fatality of one mother in every 307 births.

TUBERCULAR DISEASES.

Tubercular diseases.

The number of deaths from Tuberculosis in all its forms was 1,071, as compared with 1,025 and 1,093 in the two previous years. The table which was printed in the report for 1903 has been repeated here, giving the number of deaths from each of the recognised forms of Tuberculosis.

DISEASE.	1893	1894	1895	*1896	1897	1898	1899	1900	1901	*1902	1903	1904
Abdominal Tuberculosis ...	66	47	66	61	57	64	78	104	131	92	113	107
Tubercular Meningitis ...	63	68	94	76	79	102	63	56	88	63	73	73
Phthisis	775	630	718	694	679	718	841	847	903	874	754	806
Other forms of Tuberculosis ..	141	114	127	121	122	70	96	71	83	64	85	85
Total deaths ...	1045	859	1005	952	937	954	1078	1078	1205	1093	1025	1071
Mortality rate ...	2·15	1·75	2·02	1·87	1·86	1·87	2·10	2·08	2·30	2·04	1·93	2·00

*53 weeks.

Phthisis.

From this it will be seen that Tuberculosis of the Lungs causes a much larger number of deaths than any other form of tuberculosis; indeed, it is the one in regard to which special attention is being directed as it is the form which is infectious. Probably very little infected matter is given off by the disease when it attacks other parts of the body.

Phthisis among males and females.

Of the 806 deaths from Phthisis, 518 were in males, and only 288 in females, that is to say, the mortality-rate was 1.99 for males and 1.03 for females. There is, therefore, either a much greater tendency to phthisis amongst males, or else the chances of becoming infected amongst them in a city like Birmingham are very much greater than amongst females. In certain of the industrial towns it is known that the disproportion in this respect is as great as it is in Birmingham. The 806 deaths occurred amongst males and females at the following ages :—

	1904.		
	Deaths from Phthisis		
Ages	Males.	Females.	Total.
Under 1 year	5	0	5
1 to 5 years	13	8	21
5 to 10 „	2	3	5
10 to 15 „	2	7	9
15 to 20 „	20	22	42
20 to 25 „	37	30	67
25 to 35 „	111	64	175
35 to 45 „	130	71	201
45 to 55 „	122	54	176
55 to 65 „	56	27	83
65 to 75 „	19	0	19
75 to 85 „	1	2	3
85 and upwards	0	0	0
	518	288	806

It will be observed that the incidence, so far as is indicated by deaths, is about equally heavy among males and females under twenty years of age. Above twenty years of age the deaths are very much more numerous among males. At the age groups from twenty-five to sixty-five, the mortality-rate per 1,000 is more than twice as heavy among males as it is among females.

Phthisis and various occupations.

In the next table is shown the occupation where this has been recorded of the persons who died from the disease :—

MALES.

General and Factory Labourers...	70
Warehousemen, Clerks and Packers...	24
Brass Workers of all kinds ...	21
Turners, Fitters and Mechanics	20
Brass Casters	16
Brass Polishers	16
Carpenters, Cabinet Makers, etc.	14
Publicans and Barmen	13
Painters	12
Jewellers and Electro-plate Workers	15
Carters, Cab Drivers and Grooms	17
Wire and Tube Drawers ...	11
Cycle Makers	10
Pearl Workers	10
Iron Polishers and Filers ...	10
Gun Makers and Finishers ...	10
Bricklayers	9
Iron Casters	8
Leather Workers	7
Blacksmiths	6
Printers and Compositors ...	6
Tin Plate Workers and Tinners	6
Railway Goods Porters	5
Hawkers	4
Grinders	4
Bakers	4
Army Pensioners...	4
Grocers	4
Schoolmasters	4
Electricians	3
Basket and Mat Makers... ...	3
Tool Makers	3
Engine Drivers	3
Gas Fitters	3
Galvanizers	3
Drapers	3
Tailors	3
Other classified trades	25
Trades not classified	92
Children 14 years of age and under	17
Total	518

FEMALES.

Classified trades	7
Children 14 years of age and under	14
Trades not classified	267
Total	288

The above figures indicate very clearly the necessity for investigation in regard to the trades and the conditions of life which render men so much more susceptible, or which expose them so much more, to the infection of tuberculosis. Such an investigation will in time be made by the recently-appointed tuberculosis inspector. It is now pretty definitely proved that a great many occupations predispose to phthisis, and the mere fact that so many more men than women are employed would almost by itself account for the above difference.

Phthisis and public-houses.

There are, however, other causes in operation which are most important. Among these it has been found during recent years that phthisical patients frequently congregate in public-houses, and that in a considerable number of cases the smoking rooms in public-houses are infected, and that persons frequenting them are more liable therefore to be exposed to infection than those who do not—other things, of course, being equal.

Phthisis chart.

The chart which appeared in last year's report is again inserted in this one, with the addition of the figures for 1902 and 1903. These figures show a considerable drop in the case of the Birmingham registration districts, and it is interesting to note that the small rise which took place during the last few years has been followed by a decline.

Notification of phthisis.

During 1904 a resolution was passed by the Health Committee giving instructions as regards the voluntary notification of Phthisis. Several arrangements had to be completed before this scheme could be put into operation, and therefore the notification was not commenced until the year 1905. The procedure adopted on notification will be described in the next Annual Report.

OTHER CAUSES OF DEATH.

Syphilis

Syphilis. This disease caused 22 deaths. Fourteen were in infants under one year of age, and it is presumable that each of the deaths was due to hereditary syphilis. Three deaths occurred in children aged from one to four years, while the other deaths were in adults over twenty years of age.

The attention of the Health Department was drawn during the year to an instance in which one person had spread the disease to several others (7 was mentioned as the number known to have been infected), and apparently continued to cause its spread, without, however, our having an opportunity of stepping in and preventing it.

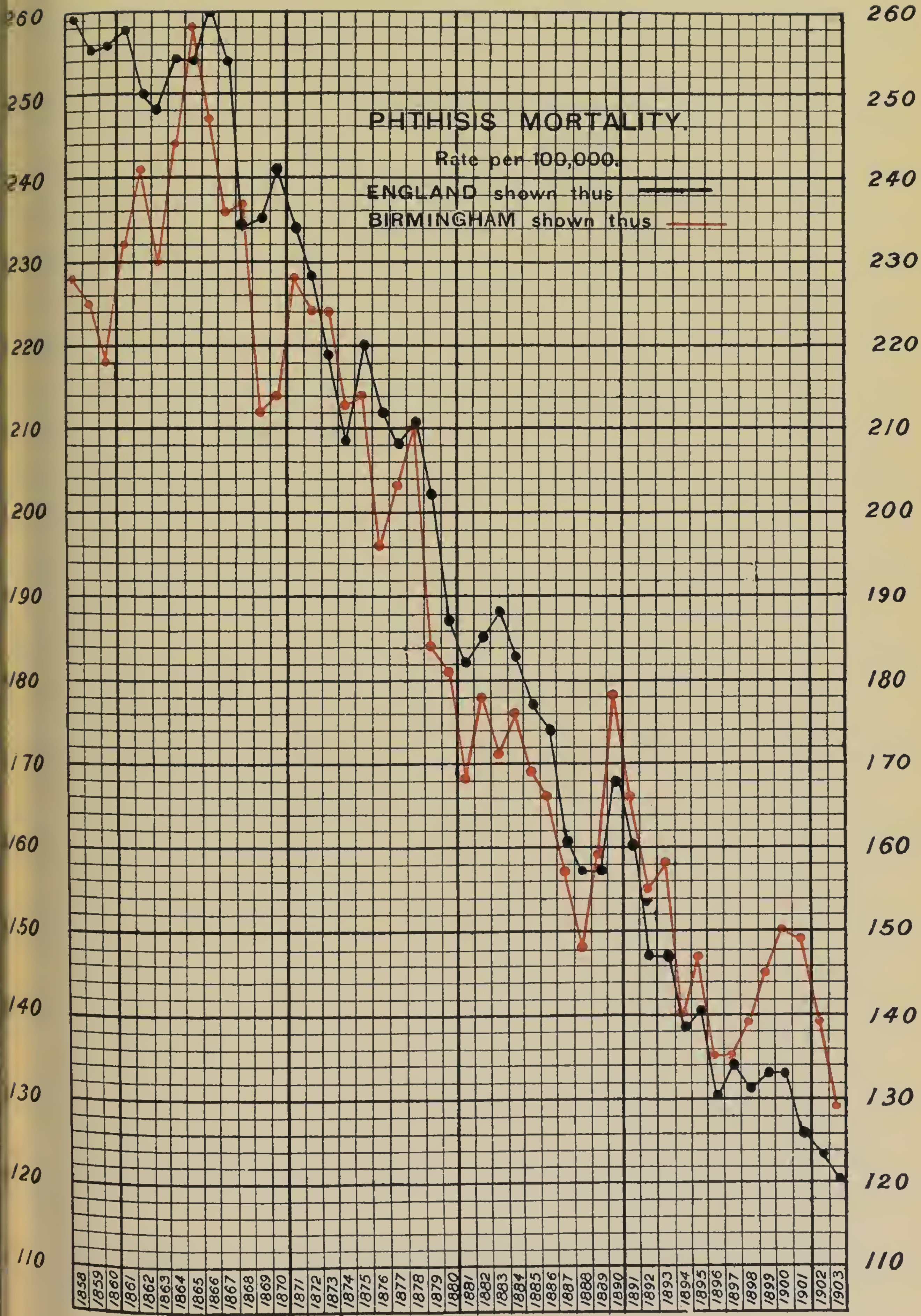
Alcoholism.

Alcoholism. Eight persons died of acute alcoholism, and 24 of chronic alcoholism. Of these 32 deaths, 5 occurred in persons aged from twenty-five to thirty-five, 11 in persons between thirty-five and forty-five, 6 in persons between forty-five and fifty-five, 9 in persons between fifty-five and sixty-five, and 1 in a person over sixty-five. There were 12 males and 20 females. The total number of deaths from this cause during the past ten years were as follows :—

1895	...	32	1900	...	27
1896	...	57	1901	...	44
1897	...	56	1902	...	24
1898	...	49	1903	...	31
1899	...	43	1904	...	32

The figures, owing to our very defective system of registration of deaths, do not give us an accurate idea of the extent to which death is due to alcohol directly or indirectly.

CHART No. 6.


PHTHISIS MORTALITY.
Rate per 100,000.
ENGLAND shown thus
BIRMINGHAM shown thus
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
1858
1859
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1903

Closely allied to the above disease is that of Cirrhosis of the Liver. The deaths from this cause are not, however, by any means all due to alcoholism, but a large majority of them are. The total number of deaths from this disease is set out along with those from alcoholism in the statement below :—

	Alcoholism.	Cirrhosis of Liver.		Alcoholism.	Cirrhosis of Liver.
1895	32	86	1900	27	111
1896	57	80	1901	44	94
1897	56	112	1902	24	95
1898	49	91	1903	31	100
1899	43	92	1904	32	71

Cancer.

Cancer.—In the following tables are set out some of the Cancer Statistics for Birmingham, with certain comparative figures :—

	Total deaths from Cancer in Birmingham.	Death-rate per 1,000 in Birmingham.	Death-rate per 1,000 in England and Wales
1895	332	·67	·75
1896	346*	·68	·76
1897	376	·74	·78
1898	342	·67	·80
1899	386	·75	·83
1900	368	·71	·83
1901	395	·76	·84
1902	383*	·72	·84
1903	413	·78	·87
1904	400	·74	—

* 53 weeks.

	Deaths from Cancer during 1904. Males.	Females.	Total.
Under 1 year	1	3	4
1 and under 5 years	0	0	0
5 " 10 "	1	0	1
10 " 15 "	0	0	0
15 " 20 "	0	1	1
20 " 25 "	1	5	6
25 " 35 "	4	8	12
35 " 45 "	17	24	41
45 " 55 "	54	60	114
55 " 65 "	48	46	94
65 " 75 "	40	54	94
75 " 85 "	5	25	30
85 and upwards	1	2	3
Total	172	228	400

Premature Birth.

Premature birth.

No less than 377 children died from this cause during the year 1904. The following table shows the number of deaths from Premature Birth during the last ten years, together with the mortality-rate for Birmingham compared with that for England and Wales :—

	Deaths.	Death-rate per 1,000. Birmingham.	Death-rate per 1,000. England and Wales.
1895	376	·76	57
1896	384	·76	·56
1897	425	·84	·57
1898	372	·73	·58
1899	367	·71	·58
1900	353	·68	·57
1901	349	·67	·57
1902	361	·67	·57
1903	365	·68	·57
1904	377	·70	—

In addition to the above mortality there is another large group of deaths of young infants due to Debility at Birth (233), Atelectasis (26), Want of Breast-milk (23), Atrophy, Debility, and Marasmus (388), and Convulsions (182). Excluding the deaths from Convulsions, we have a total of 1,047 children who died of prematurity or debility shortly after birth—truly an enormous proportion, and representing one death among every sixteen children born during the year.

Bronchitis.

Bronchitis.—In a City like Birmingham it is to be expected that the number of cases of acute or chronic Bronchitis will be large. No less than 1,073 persons died from Bronchitis in its acute or chronic form. Of this number the large majority of the acute cases occurred among young children, while the chronic cases occurred mostly among elderly persons.

Comparing the death-rates in Birmingham with those in England and Wales for the last ten years, we get the following figures :—

	Death-rate per 1,000. Birmingham.	Death-rate per 1,000. England and Wales
1895	2·32	1·97
1896	2·11	1·53
1897	2·10	1·50
1898	—	1·48
1899	—	1·61
1900	—	1·69
1901	2·06	1·36
1902	1·88	1·32
1903	1·69	1·11
1904	2·00	—

Pneumonia

Pneumonia.—Similar figures are given in regard to the mortality-rate from this disease :—

	Death-rate per 1,000. Birmingham.	Death-rate per 1,000. England and Wales.
1895	1·18	1·17
1896	1·43	1·15
1897	1·51	1·12
1898	—	1·12
1899	—	1·25
1900	—	1·37
1901	1·73	1·35
1902	1·60	1·41
1903	1·45	1·22
1904	1·67	—

Accidents.

Accidents.—Ninety-nine persons died from suffocation as the registered cause of death. This gives a mortality-rate of .18 per 1,000. In the previous ten years the mortality-rate from this cause of death was as follows :

	Death-rate per 1,000. Birmingham.	Death-rate per 1,000. England and Wales.
1895	·16	·08
1896	·13	·07
1897	·19	·07
1898	·21	·07
1899	·19	·07
1900	·19	·07
1901	·18	·06
1902	·14	·06
1903	·19	·06
1904	·18	—

Of the total of 99 deaths which occurred during 1904, no less than 83 were in young infants overlain in bed, and one was a child over one year of age. This number is, as will be seen from the above, a very high one, and indicates carelessness or that the custom of sleeping in bed with young infants prevails to a large extent in Birmingham. This custom of mothers sleeping in the same bed with very young infants is one which the Health Visitors are doing something towards getting rid of.

The Registrar-General, in his annual summary for the year 1904, gives the following comparative statistics as regards deaths from violence in Birmingham and in other large towns :—

London	0·64	Leeds	0·52
Liverpool	0 79	Sheffield	0·55
Manchester	0·72	Bristol	0·51
Birmingham	0·74	Bradford	0·50

DEATHS IN PUBLIC INSTITUTIONS.

Deaths in institutions.

There were registered in Birmingham during 1904 the deaths of 10,235 persons. Of these, 2,008 occurred in public institutions, that is to say, that one out of every 5 deaths, or 20 per cent., occurred in public institutions at the expense of the rates or of charity.

In the Registrar-General's annual summary, the percentage of persons dying in public institutions either within the City or directly connected with it is given. These figures have been copied, and are as follows for the ten years ending 1904 :—

	Percentages to Total Deaths.
1895	18·4
1896	16·8
1897	16·4
1898	17·6
1899	18·1
1900	20·4
1901	19·9
1902	24·7
1903	23·9
1904	22·4

Disinfection.

DISINFECTING STATION AND DISINFECTION.

The work done by the staff of disinfectors is indicated in the following table :—

	1902.	1903	1904.
Houses disinfected after Small-pox	67	229	10
" " Puerperal Fever ...	29	27	38
" " Scarlet Fever	4355	2410	1508
" " Diphtheria and Croup	527	656	553
" " Typhoid Fever	486	309	237
" " Phthisis	490	461	564
" " Measles	67	89	114
Beds and Mattresses disinfected	6583	5215	6564
Sheets, Blankets and Counterpanes disinfected ..	15884	12182	11156
Pillows and Bolsters disinfected	11215	7730	6986
Garments disinfected	23685	27706	13167
Carpets disinfected	1127	1469	2457
Other Articles disinfected	3238	5654	9940

During the year the Health Committee decided to install a second disinfecting apparatus at Bacchus Road Disinfecting Station. This included another large-sized Washington Lyon patent disinfector, and an additional 12-horse-power Cochran boiler. It had been found on several occasions that the amount of work which could be accomplished was not sufficient to meet the requirements of the City, and it is hoped that what has been provided will, during periods of epidemic, relieve the pressure which proper disinfection would have necessitated.

DISEASES OF ANIMALS COMMUNICABLE TO MAN.

Mr. Malcolm, the Veterinary Superintendent for the City, has forwarded me the following report on the prevalence of such diseases during 1901 :—

Glanders.

"*Glanders and Farcy.* Thirty-four cases of this disease occurred during 1901. When this number is

Glanders (*continued*).

compared with the twenty-four cases recorded in 1903 (which exceeded that returned in previous years), there is a clear record of a marked increase locally of this loathsome and dangerous disease. This increase in Birmingham corresponds with a general increase of the disease in the country, as is clearly shown by the recent registered returns, which are as follows:—

Year.	Number of Cases.
1899	1472
1900	1858
1901	2370
1902	2040
1903	2499
1904	2658

"These returns indicate that during the last six years Glanders in Great Britain has nearly doubled. Part of this increase in the returns may be explained by the more careful record kept of existing cases, but in the main it is unquestionably due to an actual increase of the disease. It was anticipated that the discovery of the value of mallein in diagnosing latent cases would lead to a marked diminution, if not an actual eradication, of the disease, and under adequate powers and regulations such anticipation would be quite justified, but under existing conditions any such favourable results need not be looked for; indeed, on the contrary, it seems far from improbable that the diagnosis of latent cases by mallein, and the subsequent surreptitious disposal of these horses and others in contact by unscrupulous people may be responsible for the extension and spread of the disease.

"As Glanders is a disease which with our present knowledge could comparatively easily be stamped out, it is difficult to understand why the Board of Agriculture, with this knowledge in its possession, should persistently neglect to take the necessary steps in the matter. The only feasible explanation appears to be a disinclination to spend the increased sum that would be necessary during the first and probably second year of the revised regulations. But, as the present annual loss to the horse-owning public cannot be less than £50,000, and there is also the sacrifice every year of a number of human lives, there seems no lack of incentive to proceed.

"Considering the danger the attendants upon infected animals run, it is satisfactory to be able to record that no case of Glanders in man was reported last year in Birmingham.

Anthrax.

"*Anthrax.*—The official returns of Anthrax in Great Britain for 1904 again show a marked increase in the number of outbreaks and in the number of animals attacked. The returns for the last three years are as follows:—

Year.	Outbreaks.	Animals attacked.
1902	678	1032
1903	767	1143
1904	1053	1570

"In Birmingham in 1904 a number of cases were submitted for examination, but only two were confirmed—one a bullock that had died and was sent into the market, and the other a pig that died in the market. In both instances every possible precaution was taken to prevent infection of butchers and others handling these carcases, and fortunately no subsequent case of anthrax occurred. The owner of the bullock was prosecuted by a neighbouring Local Authority, and was fined for failing to notify the existence of the disease and for removing the carcase. The increase of Anthrax throughout the country, together with the endeavour of stock owners to obtain some part of the value of moribund animals by sending their carcases to market in the hope that they may be passed for food, throws a marked responsibility upon the Meat Inspectors; and the difficulty of the Inspectors' duties is added to by the fact that, as a rule, the carcase is sent to market dressed and unaccompanied by the internal organs. The increase of this disease is ascribed by one high authority as largely due to the importation of contaminated feeding stuffs and other trade materials from infected countries, but by another authority it is attributed to the thoughtless or illicit disposal of the carcases of animals affected in this country. If the latter view be the correct one, improvement must be looked for in an increased efficiency in administering the present regulations at every fresh outbreak of the disease, for, with one or two slight exceptions, the existing regulations for dealing with outbreaks are wonderfully complete; but if the former view is right (and I may say in passing that it appears to me the increase of anthrax is due more to importation than to defective handling of outbreaks), the present absolute freedom for the importation of any kind of foodstuffs, etc., leaves ample scope for the provision of some very necessary regulations. In the meantime, however, the necessity for special vigilance on the part of the Inspectors is likely to be greater in the future, and, with the view of facilitating their work and protecting the health of the community, it is desirable that the carcases of moribund animals, bled and dressed and forwarded to our markets, should be condemned unless some sufficient reason such as the history of some accident clearly explains the condition.

Rabies.

"*Rabies.*—It is a pleasure to be able to report that, as in 1903, no case of Rabies occurred in this country in 1904, and the disease has therefore been entirely stamped out. Several dogs in Birmingham which had bitten people or shown other indications of a savage temperament were submitted for examination, but in no case was there any doubt as to the true condition, and it has not therefore been necessary to submit any dog's head to the Board of Agriculture for test inoculation.

Epizootic lymphangitis

"*Epizootic Lymphangitis.*—During the year 1904, with the exception of one or two cases in London and an outbreak of the disease in the South of Ireland, this disease has been confined in this country to Army horses, and it need scarcely be said that a grave responsibility rests upon the Army Authorities to prevent its spread to civilian studs. As indicated, no case occurred in the civilian horses in Birmingham, and I believe only three cases have occurred in Army horses here. These did not come under my notice officially, as municipal authorities have no jurisdiction over Army horses, but they were simply submitted for inspection by the Veterinarian in charge for the purpose of confirming his diagnosis. I have not seen any record during the year of Equine Epizootic Lymphangitis having been transmitted to man.

"Yours faithfully,

"JOHN MALCOLM."

HOUSING OF THE WORKING CLASSES.

Housing of the working classes.

There is no subject which is more difficult of solution than the provision of houses for working-class people. The problem is especially difficult in Birmingham on account of our local conditions and customs, and the enormous extent of the areas which require amendment.

The extent of the subject is, indeed, so great, so costly, and so difficult, that many who would otherwise venture to discuss it, or enquire into it, hold back. Added to the question of housing *per se* is that of the ignorance and carelessness of so many of the poorer labouring classes, who do not attempt to help themselves by getting as much as possible out of the existing accommodation, and who are so careless than many who would help are restrained from doing so, fearing that the cost of the improvement will be wasted.

The special report on the Floodgate Street Area indicated briefly certain of the conditions which require to be attended to.

As regards the condition of the houses themselves for this class, it may be well to re-state here what appear to be the minimum requirements for houses intended for the families of working people :-

1. The house, yard, and conveniences should be self-contained.
2. Water supply should be laid to each house, and also a drain to carry away slop water.
3. Yard or garden need not be more than required by Model Bye-laws in cases where "(b)" obtains. (See next page.)
4. Minimal requirements of the Building Bye-laws should always be maintained as regards structural conditions.
5. Size of living and sleeping rooms should be adequate to allow of proper ventilation by natural means.
6. Great care should be taken to prevent encroachment on the open yard space, especially by the keeping of animals.

Housing of the working classes (*continued*)

The above refer to the house itself. In addition, however, there are certain almost equally important external conditions, which may be enumerated as follows :—

(*a*) The streets for these residences should never be less than 50 feet, to allow of adequate currents of air. (These streets act as air ducts.)

(*b*) Provision should be made in each district for the healthy recreation of children and young people by the provision of open parks where games may be played.

(*c*) Small installations of slipper baths should be available.

It is obvious that in a City like Birmingham, where so much space is occupied by manufactories, to obtain such an ideal for the labouring classes much greater facilities must be given for quick and cheap means of transit, so that those who can afford it may be able to live in less-congested districts than at present.

The scheme thus outlined may doubtless be considered too idealistic by some, but, as far as can be ascertained, these are the conditions which are minimal when healthy houses are to be provided.

During 1904 the policy of the Housing Committee in improving the condition of slum dwellings has been pursued with vigour and success, and as a result of this work a large number of the smaller type of houses have been made dry and clean, and provided with a much better supply of air, thus retaining near the centre of the City as many cheap-rented small houses as possible.

The vast majority of the houses dealt with during the year have been of the back-to-back type in the central districts.

Much difficulty has been experienced in making these damp slum houses dryer by the insertion of damp-proof courses and concrete floors. In many cases the walls and roofs have had to be reconstructed, and the plastering and ceilings have been removed on account of dilapidation and filth, as also has been the woodwork.

Houses represented as unfit for habitation.

In the following list are set out the houses which were represented to the Housing Committee during 1904 as unfit for human habitation under Part 2 of the Housing of the Working Classes Act. The number in 1904 was 1,119, as compared with 304 in 1903, 150 in 1902, 15 in 1901, and 0 in 1900.

HOUSES UNFIT FOR HABITATION.

86 and 92 New Summer Street and 20 Court ..	18	houses
Houses at back of 53 Regent Place	2	"
1 Cottage, Canal side, Camp Hill.	1	"
2 Court, Summer Hill Street	6	"
19 Court, New John Street	8	"
6 Court, Aston Road	7	"
61 Water Street	1	"
6, 8, 10 and 12 Mill Street, and Nos. 1 rear of No. 10, 2 rear of No. 12, 3 rear of No. 8 ...	7	"
1 to 8 in 13 Court, Moorsom Street	8	"
2 to 6 in 8 Court, Cox Street	5	"
1 to 10 in 5 Court, Dartmouth Street	7	"
1 to 5 in 2 Court, Great Lister Street	5	"
1 to 9 in 18 Court, Pritchett Street . .	9	"
2 to 5 in 18 Court, Cheapside	1	"
1, 2, 3 and 4, back of No 2 George Street, Parade	4	"
3 Court, Bartholomew Street	8	"
2 Court, Pickford Street	5	"
13 Court, Sheep Street . . .	10	"
15 Court, Ashton Street	4	"
283 to 289 Heneage Street and Nos. 87 and 88 Holt Street and No 1 in 13 Court, Holt Street	10	"
23, 24 and 25 Gibb Street	3	"
48 and 50 Fazeley Street	2	"
21, 23 and 25 Fazeley Street and Nos. 1 and 2 in the rear	5	"
18 to 22 Clyde Street and Nos. 70 and 71 Warwick Street	7	"
2 Court, Clyde Street	3	"
36 and 37 Allison Street, 7 Court Allison Street and Nos. 20 and 21 Meriden Street .	14	"
14 to 18 Glover Street, 4 Court, Glover Street and 5 Court	15	"
30 and 31 Rea Street and 8 Court, Rea Street ..	9	"
65 and 66 Birchall Street and 8 Court Birchall Street	18	"
7 Court, Bristol Street	6	"
298 and 298 Bellbarn Road and Nos. 7 to 11 in 61 Court, Bellbarn Road	7	"
Nos. 54 and 55 Courts, Bellbarn Road	16	"
No. 6 Court, Tennant Street	10	"
1 and 2 in 3 Court, Tennant Street	2	"
1 and 2 back of 172 Tennant Street	2	"
35 Bow Street and No. 8 at the back	2	"
38 and 39 Bow Street and Nos. 1, 2, 11, 12 and 13 at back	7	"
2, 3 and 6 Bank Terrace, Bow Street	3	"
42 and 43 Bow Street and 6 Court, Bow Street...	6	"
Nos 3 to 8 Bow Street, No. 1, back of No. 5 and 2 Court, Bow Street	9	"
4 Court, Bow Street...	7	"
17, 18 and 19 Ashley Street and 1 Court, Ashley Street	13	"

Back of 128 Hospital Street	2	houses.	Houses represented as unfit for habitation (*continued*)
8 Richard Street and 4 Court, Richard Street	5	"	
11 to 19 Oxygen Street	9	"	
29 to 33 Holt Street	5	"	
Nos. 209 to 214 and 25, 26 and 27 Courts in Francis Street	24	"	
172 and 174 Hospital Street and 28 Court, Hospital Street	22	"	
Nos. 11, 12 and 13 Manchester Street and 1 Court, Manchester Street	8	"	
21 and 22 Pritchett Street and 25 to 28 Blews Street	7	"	
20 and 21 Blews Street	2	"	
4 Court, Blews Street	2	"	
58 and 59 New John Street	2	"	
89 and 90 Hatchett Street and 27 Court, Hatchett Street	6	"	
Back of 294 Summer Lane	5	"	
54 Ormond Street and 15 Court, Ormond Street	3	"	
26 Court, Bridge Street West	1	"	
33 Court, Bridge Street West	2	"	
106 and 111 William Street and 25, 26, 27 and 28 Courts, William Street	27	"	
22 and 23 Courts, Park Street	28	"	
6 Court, Bartholomew Street	10	"	
170 to 173 Tennant Street, 57 to 60 St. Martin's Street and back of 57 St. Martin's Street	10	"	
13, 14 and 23 Ivy Lane, and back of No 23 Ivy Lane	6	"	
11 Court, Glover Street	18	"	
40 Clarkson Street	1	"	
60 to 62 High Street, Bordesley and Court behind	10	"	
36 Court, High Street, Deritend	10	"	
115 Digbeth	1	"	
5 to 9 Canal Street and back of No. 6 and No. 9 Canal Street	10	"	
33 to 35 Cheapside and 7 Court, Cheapside	9	"	
15 Court, Holt Street	5	"	
66 to 71 Rea Street and 6 houses at back	12	"	
12 and 13 Glover Street and 1 house at back	3	"	
19 to 22 Duke Street and 4 Court, Duke Street	12	"	
11 Court, Sheep Street	4	"	
16 to 19 Allison Street and 4 Court, Allison Street	13	"	
4 Court, Great Colmore Street	9	"	
5 Court, Barford Street	8	"	
6 Court, Barford Street	4	"	
8 Court, Barford Street	3	"	
16 Court, Barford Street	2	"	
18 Court, Barford Street	4	"	
20 Court, Barford Street	3	"	
15 Court, High Street, Bordesley	5	"	
10 Court, Tower Street	8	"	
126 Hospital Street and 22 Court, Hospital Street	10	"	
72, 74, 75 and 76 New Canal Street and 6 Court, New Canal Street	14	"	
1, 2, 4 and 6 Manchester Street	4	"	
22 and 23 Blews Street and 1 house at back	3	"	
21 Court, Hampton Street	1	"	
22 Court, Hampton Street	3	"	
23 Court, Hampton Street	9	"	
5 Court, Warstone Lane	11	"	
Back of 116 Tower Street	4	"	
Back of 15 to 17 St. George's Street	8	"	
22 Court, Great Russell Street	2	"	
Back of 244 Farm Street	1	"	

Houses represented as unfit for habitation (*continued*).

5 Court, Great Colmore Street	9	houses.
72 Rea Street	1	"
Back 243 Aston Road	1	"
21 Bullock Street	1	"
3, 4 and 5 Lister Street and 1 Court, Lister Street	6	"
43 and 44 Price Street and 9 Court, Price Street	11	"
32 Bagot Street and 3 Court, Bagot Street ...	12	"
84 Edward Street and 19 houses in the rear ...	20	"
15 Court, Navigation Street	5	"
14 Court, Navigation Street	8	"
13 Court, William Street	4	"
7 Court, William Street and 27, 28 and 29 William Street	13	"
6 to 12 Chequers Walk, Bath Row	7	"
1 and 2 Courts, Pigott Street	8	"
40 and 42 Northwood Street and 17 Court, Northwood Street	15	"
7 to 14 William Street North and 2, 3, 4 and 5 Courts	24	"
5 Court, Newhall Street	3	"
7 Court, Newhall Street	8	"
9 Court, Newhall Street	11	"
180, 182 and 184 Newhall Street and 6 Court, Newhall Street	11	"
5 Court, Dartmouth Street	4	"
25, 29 and 31 Clarkson Street and 7 Court, Clarkson Street	7	"
39 Clarkson Street and 9 Court, Clarkson Street	3	"
47 to 51 Suffolk Street and 7 houses at back of same	12	"
42 and 44 Brearley Street and 12 Court, Brearley Street	12	"
16 Brearley Street and 4 Court, Brearley Street	7	"
7 and 8 in 1 Court, Clyde Street	2	"
Back of 49, 50 and 51 Suffolk Street . .	3	"
2 Court, Ruston Street	5	"
57 Court, Farm Street	2	"
10 to 13 Beak Street and 2 Court, Beak Street	14	"
2 Court, Smithfield Passage	6	"
41 and 42 Weaman Street and 6 houses at back	8	"
31, 32, 34 and 35 Allison Street and 3 houses at back 107, 108, 109 and 111 Coventry Street and 14 Court	19	"
86, 88, 90, 92, 94, 96, 98 and 100 and 22, 24 and 26 Courts, Barford Street	32	"
1 to 5 Drury Lane and 5 houses at back... ...	10	"
3 Court, Landor Street	14	"
55 and 56 Ormond Street and 16 Court, Ormond Street	4	"
21 Emily Street, 3 Court, Emily Street and Emily Terrace	15	"
23 and 24 Rea Street South and 3 Court, Rea Street South	10	"
17 and 18 Regent Row	2	"
19 and 20 Regent Row	2	"
17 and 18 Kenyon Street and 2 houses at back ..	4	"
Back of 65 Coleshill Street	9	"
23 to 27 Canal Street and 4 Court, Canal Street	9	"
2 to 7 Camden Drive and 1, 2, 3 Courts, Camden Grove	24	"
Total	1,119	

Houses closed.

In the next list will be found the situation of those houses which were closed by "Closing Order" obtained in Court. These numbered 233 in 1904, as compared with 65 in 1903.

Many of the houses in this list had been represented during the previous year.

Property.	Number of Houses.	Date.
25 to 29 Allison Street and 1 Court, Coventry Street	14	Jan. 15th, 1904.
Back 32 and 35 Rea Street	14	Jan. 15th, 1904.
4 to 13 back 80 Aston Road	10	Jan. 15th, 1904.
54 to 60 and 10 houses at back Barford Street	14	Jan. 15th, 1904
Back 3 Moores Row	3	Jan. 29th, 1904.
2 Court, Gosta Green	7	Mar. 11th, 1904.
15 Court, Aston Street	4	Mar. 11th, 1904.
4 Court, Jennens Row	4	Mar. 11th, 1904.
18 to 21 and backs Park Lane	9	Mar. 11th, 1904.
Back 102 Digbeth	4	April 22nd, 1904.
11 to 19 Oxygen Street and 29 to 33 Holt Street	14	April 22nd, 1904.
72 to 84 Dartmouth Street	7	May 6th, 1904.
58, 60, and 14 Court, Clarkson Street	5	May 20th, 1904.
4, 6, and 8 Courts, Clarkson Street	7	May 20th, 1904.
1, 2 and 3 Courts, Brass Street	20	May 20th, 1904.
7 Court, Allison Street	14	June 3rd, 1904.
18 Court, Pritchett Street	9	July 1st, 1904.
4 and 5 Courts, Glover Street	13	July 1st, 1904.
61 Water Street	1	July 1st, 1904
1 Court, Little Edward Street	2	July 15th, 1904.
128 Hospital Street	2	July 15th, 1904.
6 to 12, and backs Mill Street	7	July 15th, 1904
6 Court, Aston Road	6	July 15th, 1904.
8 Court, Rea Street	9	Oct. 7th, 1904
22 Court, Hospital Street	6	Oct. 7th, 1904.
10 Clarkson Street	1	Oct 7th, 1904.
Back 53 Regent Place	2	Oct. 7th, 1904.
Back 2 George Street, Parade	4	Dec. 16th, 1904.
5 Court, Dartmouth Street	7	Dec 16th, 1904.
Lincoln Place, Garrison Lane	7	Dec. 30th, 1904.
1 Court, Brewery Street	7	Dec. 30th, 1904.
Total	233	

Demolition notices.

Thirty-six notices of demolition were served with regard to the following properties :—

Property.	No. of Houses.	Date.
22 Court, Hospital Street	4	Mar. 11th, 1904.
54 and 56 Clarkson Street	2	July 29th, 1904.
1 Court, Newdegate Street	6	July 29th, 1904.
72 to 84 Dartmouth Street	7	Nov. 25th, 1904.
18, etc., and backs Park Lane	8	Nov. 25th, 1904.
18 Court, Pritchett Street	9	Nov. 25th, 1904.
Total	36	

Houses demolished.

The following 127 houses were demolished during 1904 under the Housing of the Working Classes Act :—

Property.	No. of Houses.	Date.
5 Court, Tower Street	1	Jan. 6th, 1904.
1, 3, and 5 Courts, Clarkson Street	3	Feb. 3rd, 1904.
Back 100 Digbeth	4	Feb. 3rd, 1904.
1 Court, Clyde Street	6	Mar. 2nd, 1904.
Garden Walk, Long Acre	4	April 13th, 1904.
7 Court, Bristol Street	5	April 13th, 1904.
12 Court, Clarkson Street	2	April 13th, 1904
1 Court, Banbury Street	2	June 1st, 1904.
8 Court, Clarkson Street	3	June 1st, 1904.
52 Dartmouth Street	1	July 6th, 1904.
11, etc., Oxygen Street	8	July 6th, 1904.
29, etc., Holt Street	5	July 6th, 1904.
40, etc., Lister Street	5	July 6th, 1904.
283, etc., Heneage Street	7	July 6th, 1904.
87, etc., Holt Street	3	July 6th, 1904.
13 Court, Digbeth	1	July 6th, 1904.
2 Court, Summer Hill Street	6	July 6th, 1904.
5 Court Tower Street	4	July 27th, 1904.
4 Court, Jennens Row	1	July 27th, 1904.
8 Court, Cox Street	5	July 27th, 1904.
115 Digbeth	1	Sept. 12th, 1904.
Back 35 Bow Street	3	Sept. 12th, 1904.
33 Court, Brearley Street	3	Sept. 12th, 1904.
37 Court, Brearley Street	6	Sept 12th, 1904.
2 Court, Pickford Street	5	Sept. 12th, 1904.
Garden Walk, Long Acre	3	Sept. 12th, 1904
21 Court, William Street	1	Sept. 12th, 1904.
18 Court, Cheapside	2	Sept. 12th, 1904.
13 Court, Sheep Street	2	Sept. 12th, 1904.
4 and 5 Courts, Richard Street	3	Nov. 16th, 1904.
6, etc., Earl Street	4	Nov. 16th, 1904.
Back 102 Digbeth	4	Nov. 16th, 1904.
6 Court, Little Ann Street	14	Dec. 7th, 1904.
Total	127	

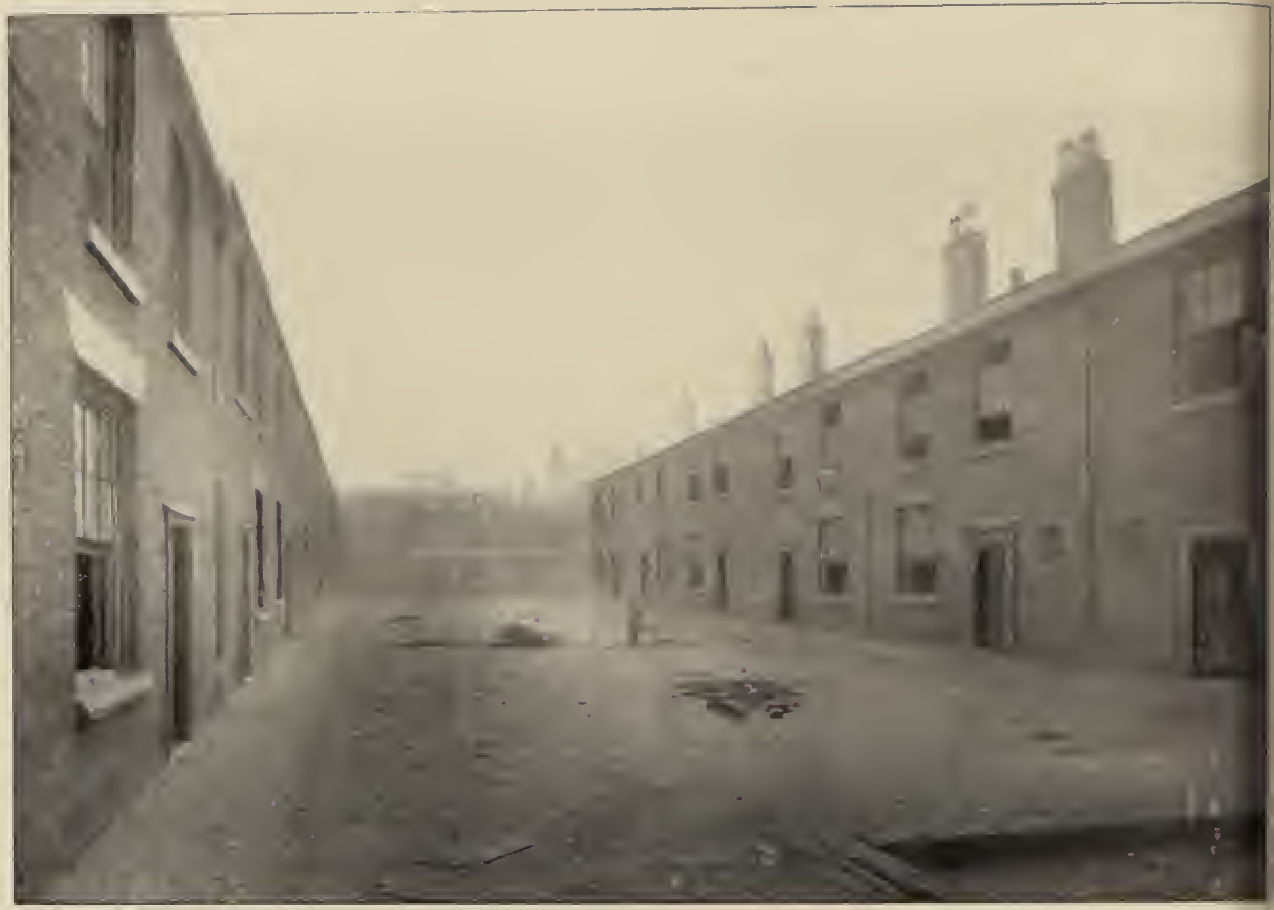
In addition to the above, the following were demolished without notice :—

Park Lane and Moor Street ... 20 houses.

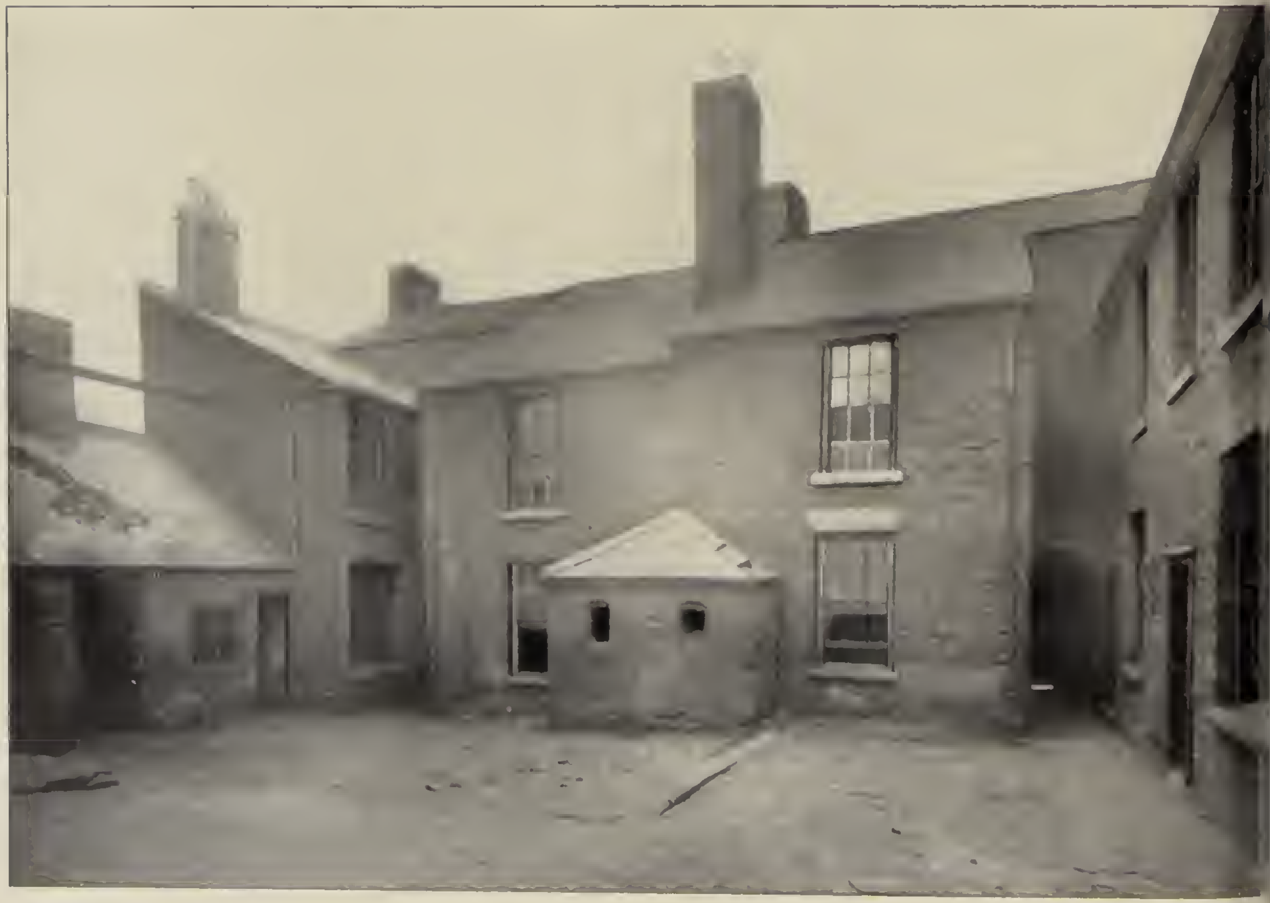
Houses made fit for habitation.

In the next statement is set out a list of the 212 houses which have been repaired and completed during 1904. Owing to the very slow procedure which the Housing of the Working Classes Act necessitates, the number which will be repaired during 1905 will be much greater than in 1904.

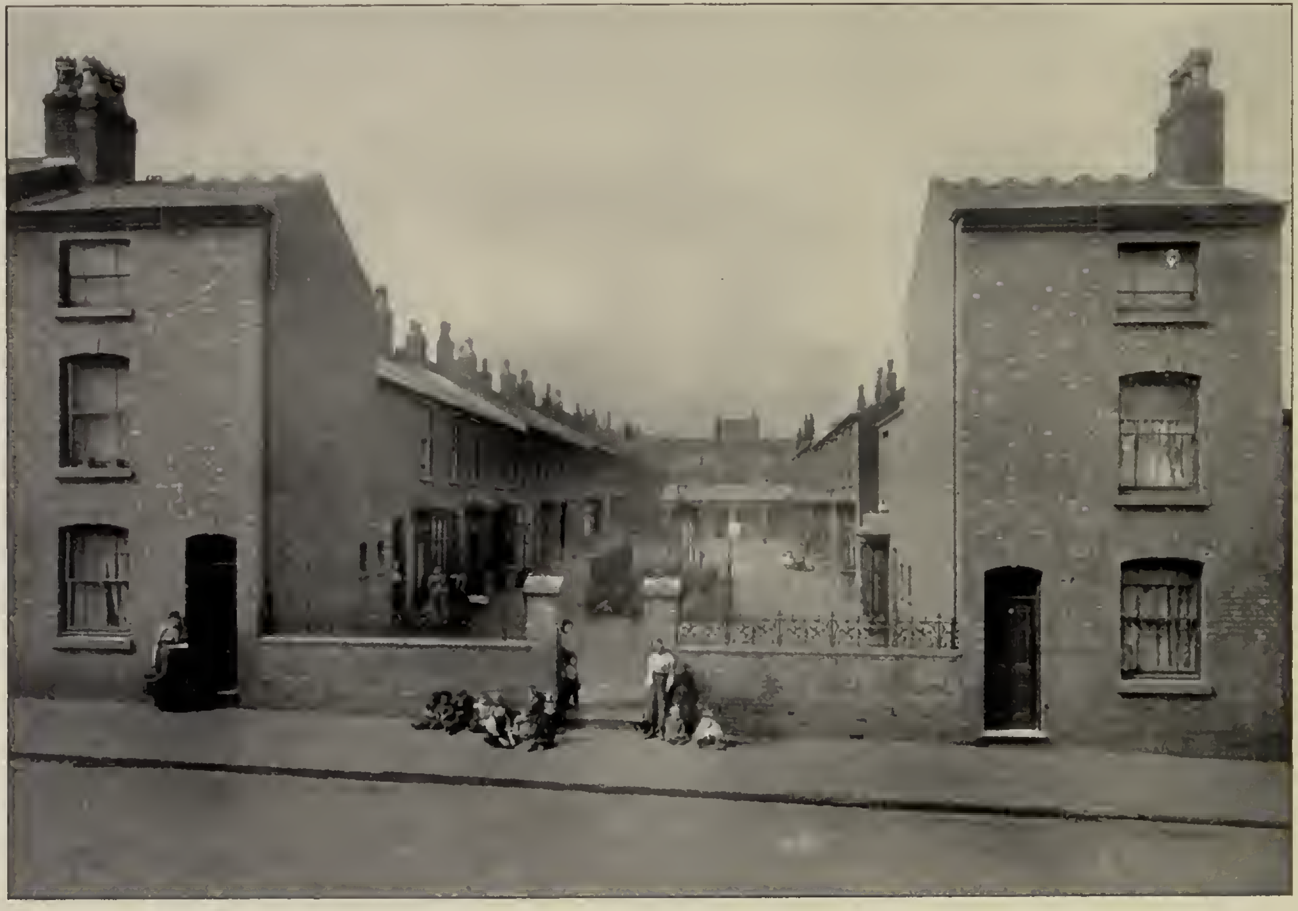
Property.	No. of Houses.	Date.
1 Court, Blews Street	2	Jan. 6th, 1904.
7 Court, New John Street	6	Jan. 6th, 1904.
Richmond Terrace, Ashley Street	3	Feb 3rd, 1904.
11 Adams Street	1	Feb. 3rd, 1904.
12 and 14 Adams Street	2	Feb 3rd, 1904.
1, 3, and 5 Courts, Adams Street	21	Feb 3rd, 1904.
Back 3 Moores Row	3	Feb. 3rd, 1904
6, 7, and 8 Courts, Cecil Street	20	Mar. 2nd, 1904.



TYPICAL COURT-YARD HOUSES BEFORE IMPROVEMENT AND RECONSTRUCTION.



THE STREET END OF THE ABOVE COURT-YARD SHOWING HOUSES WHICH WILL BE REMOVED.



COURT-YARD AFTER IMPROVEMENT AND RECONSTRUCTION.

Property.	No. of Houses.	Date.
Lily Crescent, Derby Street	4	Mar. 2nd, 1904.
Back 214 Bradford Street	2	April 13th, 1904.
54, 55, and 4 houses at back, New John Street	6	April 13th, 1904
7 Court, Richard Street	12	May 4th, 1904.
1 Court, Banbury Street	10	June 1st, 1904.
7 Court, Warwick Street	3	June 1st, 1904.
21 Court, Milk Street	7	June 1st, 1904.
17 Court, Dartmouth Street	2	July 6th, 1904.
2 Court, Clyde Street	3	July 6th, 1904.
Victoria Terrace, Dartmouth Street ..	1	July 6th, 1904.
1 Court, Richard Street	13	July 6th, 1904.
13 Court, Angelina Street	2	July 27th, 1904.
19 Court, New John Street	7	July 27th, 1904.
4 Court, Jennens Row	3	July 27th, 1904.
21, etc., Fazeley Street	5	Sept. 12th, 1904.
34 Court, Lawley Street	16	Sept. 12th, 1904.
33 Court, Brearley Street	6	Sept. 12th, 1904.
8 Court, Birchall Street	18	Sept. 12th, 1904.
13 Court, Sheep Street	8	Sept. 12th, 1904.
17 Court, Francis Street	1	Sept. 12th, 1904.
Back 243 Aston Road	1	Sept. 12th, 1904.
24 Court, William Street	2	Sept. 12th, 1904.
Back 294 Summer Lane	5	Oct. 5th, 1904.
3 Court, Manchester Street	3	Oct. 5th, 1904.
10 Court, Lower Tower Street	12	Oct. 5th, 1904.
18 Court, Clarkson Street	8	Oct. 5th, 1904.
5 and 6 Courts, Richard Street ...	17	Oct. 5th, 1904.
61 Court, Bellbarn Road	5	Dec. 7th, 1904.
7 Court, Bristol Street	2	Dec. 7th, 1904.
Total	242	

The repairs necessary to render the above houses habitable have varied considerably in different blocks. In certain cases, too, the owners have carried out the suggestions of the Housing Committee in a much more generous spirit than in others.

Illustrations of some of the slum courts have been inserted, as well as some of the reconstructed properties.

Private enterprise in providing house accommodation is mainly confined to the erection of new houses in the out-lying districts, and in extra-municipal districts which have good tram or train services from the City. These houses, however, are intended only for the better-paid artisan classes, and practically do not cater for the large group of workmen who earn less than 30s. per week on an average.

Efforts have been made by private enterprise during 1904 to supply houses for these poorer-paid workmen in central districts. These have taken the form of block buildings at Hospital Street and Palmer Street. In each case the buildings have been well and conveniently constructed. There appears, however, to be a general dislike among the people to live in flats, even when they are clean, sanitary, and convenient. It is possible that time will dissipate this prejudice, as it has done elsewhere.

In many districts in the centre of the City the old court-yard houses are being demolished to make room for works. This effect of commercial enterprise is helping materially to do away with many slum dwellings every year.

COMMON LODGING HOUSES.

Common lodging houses.

The clauses in the local Act of 1903 in regard to common lodging houses came into operation on January 1st, 1905, for practical purposes. The chief and most important powers given by these new clauses are those relating to the annual registration of the lodging houses, and the one relating to the obligation of the keeper or his deputy to reside at the lodging house between the hours of 9 o'clock in the evening and 6 o'clock in the morning.

It was known for a good many years that a considerable number of the common lodging houses in the City were dilapidated old buildings, and quite unsuitable for the purpose. Many of them, in addition to being dilapidated, were also dangerous from the point of view of escape in case of fire.

After careful enquiry into the condition of each common lodging house in the City, the Health Committee decided that they would not re-register any that did not comply with certain minimal requirements. Notice was given to each common lodging house keeper of these requirements, and a very large number of interviews with keepers and owners took place. Certain of the dilapidated old buildings which could not possibly be put into a suitable condition to be registered as lodging houses were closed. Some of these have been pulled down, while others have been closed and are disused at the present time.

The following is a list of the lodging houses which have been struck off the register on account of their being structurally defective or otherwise dilapidated or unsuitable for use as common lodging houses :—

No. 91, Park Street.
" 2 in 22 Court, Park Street.
" 95, Park Street.
" 96, Park Street.
" 77, New Canal Street.
" 71½, New Canal Street.
" 73 New Canal Street.
New England.
Nos. 8 and 9 in 1 Court, Clyde Street.
Nos. 2 and 3, and back 3, Allison Street.
No. 86, Cecil Street.
" 15, back 15, Mill Lane.
" 16, back 16, Mill Lane.
Prince Albert Buildings, St. James' Place.
" 63 Bartholomew Street.
" 32, Buck Street.
" 21, Bartholomew Row.
" 94, Park Street.
Nos. 18 and 19, Lancaster Street.

The remaining lodging houses have been very greatly improved in the majority of instances. In several of the houses where there had been some slight overcrowding before, the amount of cubic capacity required per bed was raised to at least 300 cubic feet for each lodger. Each of the large sleeping rooms in these houses has had special air brick ventilators inserted in the walls, so that the particularly foul atmosphere which one meets with in the bedrooms of common lodging houses may have a chance of escaping.

In addition, each lodging house has had a certain number of fixed wash basins provided, so that the lodgers may have reasonable facilities for keeping themselves clean. In a certain number of the old lodging houses the lodgers were expected to wash themselves in a bucket of cold water in the yard, and it is needless to say that during stormy or cold weather this did not conduce to cleanliness on their part.

Water-closets have been substituted at the lodging houses where pan-closets existed, as the latter form of accommodation is particularly unsuitable for a lodging house. In a good many of the lodging houses, extra kitchen accommodation has been provided.

At one time there was some probability of there being a considerable shortage in the number of beds for the habitués of common lodging houses, but as a matter of fact the reduction is not nearly so great as was anticipated, as new lodging houses have been registered to meet the deficiency, and in addition the large Rowton House, containing 820 beds, was opened in February. This house has attracted a good many of the habitués of ordinary lodging houses.

HOUSES LET IN LODGINGS.

Houses let in lodgings.

The number of houses on the register on December 31st, 1901, which were sub-divided and let out into separate rooms or suites of rooms, was 231. These houses gave sleeping accommodation for 1,273 people, but the number actually living in these houses was considerably less on any particular night.

A great deal of improvement has taken place in the condition of the interior of many of these houses. It was the custom in former times to allow the occupier to re-paper the walls at infrequent intervals, and as a result a great many of the houses had numerous layers of paper on the walls, which harboured dirt and vermin. In the majority of cases these papers have been stripped off, the wall plaster has been repaired and colour-washed, and the walls are now lime-washed twice every year.

The people who reside in these sub-let houses pay very high rents. In the case of furnished rooms these rents vary from 3s. to about 6s. 6d. a week for very miserable accommodation, often with very trumpery furniture.

These houses have been difficult to deal with in many ways. In the first instance, the conveniences and water supply, and also the drainage arrangements, are in a great many cases defective in amount. Then the construction of the stairs leading to the upper rooms is bad and makes them insufficient for the purpose for which they are used. The houses themselves, as a general rule, are inhabited by the poorest and most careless people, who also are among the most destructive of tenants.

During the year 10 new houses were put on the register, and 56 houses were taken off.

In 26 instances proceedings were taken against the keepers of these houses during the year for various offences as follows :—

	£ s. d.		s. d.	Total fines. £ s. d.	Total costs. £ s. d.
NOT LIMEWASHING.					
1 fined	0 10 0	Costs	9 0	0 10 0	0 9 0
7 "	0 10 0	"	8 0	3 10 0	2 16 0
5 "	0 5 0	"	8 0	1 5 0	2 0 0
1 "	0 5 0	"	8 6	0 5 0	0 8 6
1 "	1 0 0	"	8 0	1 0 0	0 8 0
OVERCROWDING.					
1 fined	0 1 0	"	8 0	0 1 0	0 8 0
2 "	1 0 0	"	8 0	2 0 0	0 16 0
1 "	0 10 0	"	11 0	0 10 0	0 11 0
1 "	0 10 0	"	10 0	0 10 0	0 10 0
1 "	0 0 0	"	5 0	0 0 0	0 5 0
1 "	0 5 0	"	9 0	0 5 0	0 9 0
MIXING THE SEXES.					
2 fined	0 0 0	"	4 0	0 0 0	0 8 0
2 withdrawn					
			Total	£9 16 0	£9 8 6

CANAL BOATS.

Canal boats.

In the following table will be found the number of visits made, and a statement of the other work done by the Canal Boat Inspector during each of the last four years :—

	1901.	1902.	1903.	1904.
No. of Canal Boats on Register	373	376	378	379
No. registered during the year	13	25	13	28
No. of Certificates cancelled	19	22	11	27
No. of Inspections made	850	919	969	1182
Breaches of Regulations discovered :—				
Want of Registration	5	12	7	2
Certificate not produced	21	15	23	17
Not properly marked	11	15	19	18
Cases of overcrowding	9	10	7	16
Sexes not separated	7	10	9	5
Want of Cleanliness	2	0	6	4
Painting required	2	1	1	1
Water receptacle not provided ...	17	10	13	15
Fore Cabin not registered	2	0	0	0
Not in habitable condition	7	7	5	6
Wooden Screen required	0	1	0	0
Fly Boat used as ordinary boat ...	0	1	1	0
	83	82	91	84

Notices were issued with respect to the above, and were complied with without recourse to legal proceedings.

In addition to devoting his time to the inspection of the canal boats, the Inspector is required to see that the children on them attend school.

MILK SUPPLY.

Milk supply.

During 1904 there was no outbreak of disease which could be directly traced to any of our milk supplies. Although this statement is made, however, it must not be understood to prove that no disease actually occurred on account of dirty milk supplied to the city.

During the year a good deal of information was obtained as regards the milk supplied to Birmingham, and this was incorporated in the report presented to the Health Committee on Infant Mortality in June. It was pointed out in that report that a very large proportion of the milk supplied to the City comes from outside its boundaries, and that in a great many of the districts from which it is sent the sanitary condition of the farms and the cleanliness of the dairies are not what they ought to be, owing to lack of interest on the part of the rural sanitary authorities. It is probably correct to say that the safest way at the present time to get fresh and clean milk is to buy that which is produced inside the City from cows which are under the monthly inspection of Mr. Malcolm, the Veterinary Superintendent to the Corporation, and his assistant. By doing this, one can ensure getting milk which is fresh, and in regard to which reasonable precautions have been taken to prevent disease contamination.

The whole question of milk supply is receiving attention from the Health Committee at the present time, and it is hoped that some means may soon be found of making certain that proper steps are being taken to prevent dirty milk, and also stale milk, from being sent into the City.

Cows and cowsheds.

Cows and Cowsheds. Mr. Malcolm has forwarded to me the following report on his inspection of cows and cowsheds during the year :

"I herewith present the following report on the inspection of cows and cowsheds in the City of Birmingham for the year ended 31st December, 1904 :

"*Register.* On the 31st December, 1904, there were 26 licensed cowkeepers in the City, and in their names 65 cowsheds were registered, to contain 629 cows (a detailed list of which is appended). This is

Cows and cowsheds (*continued*).

a slight increase as compared with the previous year, when there were 24 cowkeepers with 59 registered sheds and standings for 602 cows. During the year one shed has been removed from the Register, two sheds have changed hands, and five sheds have been added. These five sheds were not recent buildings, and it was necessary in each case to order alterations in regard to the drainage, ventilation, lighting, and water supply, so that the conditions required in the bye-laws should be complied with.

"*Visits of Inspection.*—During the year the Veterinary Inspectors have made 701 visits to cows and cowsheds, each shed visited being reckoned one visit.

"*Cows.*—Following the method adopted in former years, the visits of inspection have been so arranged that the cows in each shed, as a rule, have been inspected once a month. At these visits the udders of all the cows were carefully examined. As a result of this, 55 cows were placed under special examination. Of these, 18 were passed, as the milk was found normal; 32 were found to be affected with mastitis or inflammation of the udder in one or more quarters of the gland, and in varying degrees of intensity. One cow was found affected with tuberculosis which involved the udder, and, on explaining the dangerous nature of the case to the owner, the cow was removed and killed by his instructions. One cow was found giving milk mixed with blood, probably due to a kick or tread; the milk soon became normal, and its sale was therefore only temporarily stopped. Three cows affected with chronic indigestion, debility, and fœtid diarrhœa were removed from the dairy stock.

"As the examination of those cows affected with mastitis clearly demonstrated it to be contaminated with pus organisms and other inflammatory products, its sale was prohibited. A few of the cows recovered after a short time, and the milk resumed its natural character, but the majority lost permanently the secreting function of the invaded quarters. Mastitis in many cases is of a contagious nature, and is liable to be spread from one cow to another by the hands of the milker. In every case the dairymen have been warned to take precautions to prevent the spread of the disease, and they have been advised to isolate the affected animals, or, failing the accommodation for that, to place them at the end of the shed and to milk them last. With the exception of the cases mentioned below, the dairy cows in the City have been comparatively free from disease. Generally speaking, the cows have been kept in a fairly clean and satisfactory condition; at the same time, in several instances it has been necessary to strongly impress upon the cowkeepers the necessity of paying greater attention to the cleanliness of the cows, and more particularly of the teats, udders, and hind quarters, as well as in one or two cases to the unsatisfactory condition of the hands of the milkers. The following tabulated statement compares the results with those of previous years:—

YEAR.	Number of Cows in the City.	Cows under Examinat'n.	Milk found Normal.	Cows with Mastitis.	Tuberculosis of Udder.	Cow pox.	Milk containing Blood.	Removed from Dairy Stock because of debility.	Visits of Inspection.
1904	629	55	18	32	1	—	1	3	701
1903	602	68	22	43	1	1	1	—	715
1902	613	58	16	42	—	—	—	—	668
1901	606	75	12	62	1	—	—	—	724

"*Cowsheds.* The cowsheds as a whole have been kept in moderately good sanitary condition, and the limewashing and cleansing provided for in the bye-laws have been duly carried out. Nevertheless, it has been necessary on several occasions to insist upon greater attention being paid to the cleansing of the interior of the sheds. In some of the sheds it has been necessary to request various structural repairs, such as the relaying of floors and gutters and renewing of ventilators and shed fittings.

"It has been necessary to serve official notices on three cowkeepers—in the first case in consequence of the dirty condition of both cows and sheds; in the second case for having an excessive number of cows in the sheds; and in the third case for keeping pigs in a registered cowshed. The nuisance was discontinued in all three cases after the receipt of the notice, but the cowkeeper in the third case again committed a similar offence within a fortnight of the previous one. He was accordingly prosecuted, and, being found guilty, was fined.

"JOHN MALCOLM, F.R.C.V.S.,
"*Veterinary Superintendent.*"

Milkshops

Milkshops. The Milkshop Inspector has supplied the following information in regard to his work during the year :—

	1902		1903		1904
Dairies on the register	24	...	26	...	16
Milkshops on the register	3062	...	2734	..	2470
Purveyors on the register	130	...	163	...	182
Dairies registered during the year ...	5	...	5	...	1
Milkshops registered	642	...	347	...	225
Purveyors registered	25	...	44	...	94
Dairy certificates cancelled	5	...	3	...	11
Milkshops ,, ...	277	...	675	...	489
Purveyors ,, ...	5	...	11	...	75
Visits to dairies	150	...	105	...	90
Visits to milk shops and milk stores ...	5555	...	5201	...	5050
Dirty vessels found at milk shops and milk stores	7	...	36	.	49
Shops, cellars, and pantries whitewashed	28	...	59	...	109
Dirty churns found at railway stations	6	..	7	...	0
Cases of infectious disease reported at milkshops	57	...	40	...	20

A good deal of excellent work has been done during the year in securing greater cleanliness in the milkshops of the City. By custom, a large number of people in Birmingham prefer to buy their milk from small vendors, rather than from a milkman who takes his milk round. The milk sold in these shops is exposed to a great many sources of contamination, not only from infected persons, but in dusty and dirty premises. Dr. McCrindle, who has been looking after these milkshops during the year, has been able to obtain in a good many instances much better conditions for storage of the milk so as to prevent contamination.

MEAT, FISH, AND FRUIT SUPPLY.

Bad meat, fish, and fruit.

The following list of articles surrendered or seized during the year has been supplied to me by the Superintendent of Markets, who controls the operations of the Inspectors of Meat and Food.

	1903.	1904.
BAD MEAT.		
Voluntarily surrendered ...	2684 lots.	3104 lots.
Seized by Inspectors	18 lots.	10 lots.
Weight destroyed	223 tons.	286 tons.
Persons prosecuted ...	6.	6.
Penalties inflicted	£75.	£57.
BAD FISH.		
Voluntarily surrendered	713 lots.	646 lots.
Seized	8 lots.	6 lots.
Weight destroyed	93 tons.	70 tons.
Persons prosecuted	2.	1.
Penalties inflicted	£15.	£5.
BAD FRUIT.		
Weight destroyed ..	17 tons.	11 tons.
Persons prosecuted ...	1.	1.
Penalties inflicted	£20.	£20.

The Inspectors paid 11,674 visits to slaughter-houses, and report that they found them generally to be in a clean condition.

During the year one of the Inspectors, while in the act of making a seizure of very bad "slink" meat was attacked by a salesman who attempted and nearly succeeded in cutting off the Inspector's head. After a prolonged and very serious illness, the Inspector has recovered sufficiently to be on duty again. The meat salesman was prosecuted and sent to penal servitude for five years, and the occupier of the shop, for having in his possession the "slink" meat, was fined £20.

WATER SUPPLY.

Water supply

The analysis of water samples taken at the instigation of the Health Committee from taps in various districts of the City are set out in table XIII. These samples are taken as controls to the ordinary monthly series of samples which are taken at the instigation of the Water Department, and which are reported on by the Medical Officer of Health to the Water Committee direct.

Few towns have had to deal with a more difficult problem than has Birmingham in obtaining an adequate supply of water of a character which does not admit of the probability of contamination. The chief reasons for this difficulty have been the size of the town to be supplied and the character of the country surrounding it.

On July 21st, 1904, the new Welsh supply was formally inaugurated by His Majesty the King, who then turned on the water from the works at Rhayader. It will be some little time yet before the whole of the City is supplied with Welsh water, but the knowledge that in time this pure soft water is to replace the hard unsatisfactory water of our old supply will remove considerable responsibility from the Health Department. The old supply, as is generally known, was derived from six deep wells and from five brooks.

The new supply has proved to be of even better quality than originally anticipated. It is not an acid moorland water, as is supplied to so many of the large towns, but is a soft, faintly alkaline water well ærated, and containing no objectionable organic or inorganic constituents. But far more important than this is the fact that the chance of contamination has been reduced to a point beyond which it would be unnecessary to go. We have, therefore, not only a pure water, but one that cannot become contaminated.

The City Analyst has supplied the following analysis :

Total Solid Matter	...	7·2	parts	per 100,000
Ammonia	Free	0·001	"	"
	Albuminoid	0·006	"	"
Nitric Nitrogen	...	0·000	"	"
Oxygen consumed (4 hours at 27°C)	...	0·13	"	"
Chlorine in Chlorides	...	1·1	"	"
Hardness as $CaCO_3$	...	3·4	"	"
Alkalinity as $CaCO_3$	...	3·0	"	"
Plumbo-Solvency (Houston's Method)		0·03	"	"
Plumbo-Erosive " "	7 days	0·2	"	"
" " " "	14 days	0·4	"	"

It will be observed that the amount of total solid matter amounts to 7.2 parts per 100,000, as compared with amounts ranging from 25 to 36 parts per 100,000 in the old supply.

The analysis of the solid matter shows the following :

Calcium (Ca) ...	0·83	parts	per 100,000
Magnesium (Mg) ...	0·22	"	"
Iron (Fe) ...	0·08	"	"
Silicates as Si 04 ...	0·58	"	"
Chlorides as Cl. ...	0·90	"	"
Sulphates as SO^4 ...	0·68	"	"
Carbonates as CO_3 ...	1·26	"	"
Peaty and other undetermined matter ...	2·25	"	"
Total ...	6·80		

When the water first arrived from Wales it contained a considerable amount of yellowish brown colour, amounting to red 3 parts, yellow 8 parts, and blue 1 part on a tintometer scale. This colour has diminished in tint, till it is now represented by red .6 part, yellow 2.6 parts, and blue 0.2 part. Most of the soft waters supplied to large towns have the power of dissolving lead to a greater or less extent. It has been found that the extent of this action is for practical purposes due to the acid peaty matter which the water contains. The Welsh water is, however, alkaline to lacmoid, and does not differ materially from our old supply in its plumbo-solvent ability. It may be said that every pure water has a slight action on lead, pure rain water being especially active in this respect. The samples which have been taken from lead-lined cisterns and pipes during 1904 have so far indicated that there is an absence of lead in solution in amounts which would cause injury even to people who have a special idiosyncrasy to lead.

While there is no special power to dissolve lead, there is a power in the original Welsh water of eroding lead. This, however, is neutralised by the passage of the water through the aqueduct to Frankley. When, however, the amount of water sent from Wales is greatly increased, it may be necessary to add a grain or two of chalk per gallon in order to correct this erosive power, as is done in a number of other towns, should it be found that the hardening agency of the aqueduct is insufficient to neutralise the larger quantity.

FACTORIES AND WORKSHOPS.

Factories and workshops

During the year a good deal of new ground has been opened by reason of the appointment of additional inspectors whose duty it is to look after factories, workshops, and workplaces. Two male inspectors and one woman inspector devote the whole of their time to this work.

A new register was started with a view to eventually securing regular inspection of each of the premises coming under the titles " workshop " or " workplace," and much attention has been paid to getting the details for this register correctly entered. The figures, therefore, will not be comparable with those given in former years.

A form has been suggested by the Local Government Board for setting out the statistics of the work done during the year, and the results are as follows :—

FACTORIES AND WORKSHOPS.—RETURN FOR 1904.

INSPECTION.

Inspection

	Inspections.	Written Notices.	Prosecutions
Factories	195	21	Nil.
Workshops	7321	448	1
Work places	78	18	1
Homeworkers' premises	628	Nil.	Nil.
Total ...	8222	487	2

DEFECTS FOUND.

PARTICULARS.		Number of Defects. Found.	Remedied	Referred to H. M. I	No. of Prosecutions.
Nuisances under Public Health Acts :—					
Want of cleanliness		933	933	Nil	Nil
Want of ventilation		103	103	Nil	Nil
Overcrowding		13	13	Nil.	Nil.
Want of drainage of floors		39	39	Nil.	1
Other nuisances		816	811	Nil.	Nil.
Sanitary accommodation	Insufficient	66	66	Nil	Nil.
	Unsuitable or defective	365	363	Nil.	Nil.
	Not separate for sexes	18	18	Nil.	Nil.
Offences under the Factory and Workshops Act :—					
Illegal occupation of underground bakehouse		Nil.	Nil.	Nil.	Nil.
Breach of special requirements for bakehouses		1	1	Nil.	1
Failure as regards lists of outworkers..		14	12	Nil.	1
Giving out work to be done in premises which are—	Unwholesome	Nil.	Nil.	Nil.	Nil.
	Infected ...	Nil.	Nil.	Nil.	Nil.
Allowing wearing apparel to be made in premises infected with Scarlet Fever or Small-pox		Nil.	Nil.	Nil.	Nil.
Other offences		Nil.	Nil.	Nil.	Nil.
Total		2368	2359	—	3

OTHER MATTERS.	Number.	
Matters notified to H M. Inspectors of Factories—		
Failure to affix Abstract of the Factory and Workshop Act (Sec. 133)	32	
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Act, but not under the Factory and Workshop Act — Notified by H.M. Inspectors	78	
Reports of action taken sent to H.M.I.	78	
Other	Nil.	
Underground bakehouses		
In use during 1903	24	
Certificates granted 1903	3	
Certificates granted 1904	12	
In use at the end of 1904	15	
	Number of	
	Lists	Outworkers.
Lists of Outworkers received	147	1015
Addresses of Outworkers forwarded to other Authorities	63	
" " received from " "	17	
Homework in unwholesome or infected premises :—	Wearing Apparel.	Other.
Notices prohibiting homework in unwholesome premises	Nil	Nil.
Cases of infectious disease notified in homeworkers' premises under Infectious Disease (Notification) Act	5	2
Orders prohibiting homework in infected premises ...	Nil	Nil.
Workshops on the register at the end of 1904	6167	
Bakehouses	639	
Total	7106	

BLACK SMOKE NUISANCES.

Smoke nuisances

The four Smoke Inspectors made 13,186 observations, each of one hour's duration, during the year 1904. As in previous years, these observations include not only the chimneys connected with steam boilers, but also those connected with metallurgical furnaces of various kinds. The average duration of black smoke was 1.39 minutes.

In the following table, the number of observations and the average number of minutes during which black smoke was emitted are given for the last six years :—

	1898	1899	1900	1901	1902	1903	1904
No. of Observations... ...	6431	14100	9358	15808	13445	16705	13186
Average number of minutes of black smoke per observation	3·42	1·36	1·95	1·34	1·26	1·27	1·39

The total number of infringements reported was 231. as compared with 151 in the previous year. Of the 231 excessive emissions of black smoke reported, the owners of the works were cautioned in 117 cases, and in 98 instances police-court proceedings were taken. The amount of the penalties inflicted during the year was considerably more than in any previous year, as will be seen from the following table :—

	1898	1899	1900	1901	1902	1903	1904
Total cases dealt with	152	117	125	116	139	151	231
Cautionary letters sent	99	81	89	80	89	71	117
Police Court proceedings ...	53	35	35	35	50	80	98
Total amount of fines	£40/2/0	£19/10/0	£24/10/0	£15/2/6	£33/15/0	£49/7/6	£77/10/0
Total amount of costs	£21/10/0	£14/0/0	£14/6/0	£14/4/0	£19/8/6	£36/15/6	£37/17/6
Average fine ..	15/1	11/2	14/0	8/7	13/6	13/2	15/10

APPENDIX.

TABLE I.—VITAL STATISTICS OF WHOLE DISTRICT DURING 1904 AND PREVIOUS YEARS.

Year.	Population estimated to middle of each year.	BIRTHS.		Deaths Under 1 Year of Age.		Total Deaths Registered At all Ages.		Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in the District.	Deaths of Residents registered beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1894	492,301	15,505	31·6	2,539	164	8,946	18·2	1,549	...	..	...	...
1895	496,751	16,014	32·3	2,910	182	9,863	19·9	1,656	...	...	...	...
1896	501,241	†16,582	32·5	†3,265	197	†10,405	20·4	†1,554	...	...	...	...
1897	505,772	16,771	33·2	3,594	214	10,668	21·1	1,489	...	...	...	...
1898	510,343	17,289	34·0	3,287	190	9,936	19·5	1,518	...	...	...	...
1899	514,956	17,609	34·3	3,398	193	10,446	20·3	1,614	247	325	10,524	20·5
1900	519,610	16,941	32·7	3,366	199	10,756	20·8	1,911	267	393	10,882	21·0
1901	523,284	16,735	32·1	3,150	188	10,357	19·8	1,802	302	347	10,402	19·9
1902	528,181	†17,103	31·9	†2,681	157	†9,577	17·8	†2,082	†312	†407	†9,672	18·0
1903	533,039	16,866	31·7	2,668	158	9,056	17·0	1,916	321	388	9,123	17·2
Averages for years 1893-1902	512,548	16,741	32·6	3,086	184	10,001	19·5	1,709	...	...	..	...
1904	537,965	16,902	31·5	3,302	195	10,235	19·1	2,008	332	437	10,340	19·3

* Rates in columns 4, 8, and 13 calculated per 1,000 of estimated population.

† 53 weeks.

Area of District in acres, 12,639.

Total population at all ages at Census of 1901 522,204.
Number of inhabited houses " " 107,831.
Average number of persons per house at Census of 1901, 4·8.

TABLE II.—VITAL STATISTICS OF SEPARATE LOCALITIES IN 1904 AND PREVIOUS YEARS.

Year.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.
Wards	ROTTON PARK.			ALL SAINTS'.			LADYWOOD.			ST. PAUL'S.			ST. GEORGE'S.			ST. STEPHEN'S.		
1899	41,673	758	18·2	40,009	705	17·6	25,140	496	19·8	17,118	376	22·0	20,641	490	23·8	23,533	624	26·6
1900	43,339	773	17·8	42,251	828	19·6	25,177	484	19·2	17,025	346	20·4	20,473	539	26·3	23,385	615	26·3
1901	46,835	752	16·1	41,444	725	17·5	25,089	502	20·0	14,954	338	22·6	20,230	469	23·2	23,765	633	26·6
1902	46,088	677	14·4	41,834	659	15·5	25,128	444	17·3	15,552	289	18·2	20,434	449	21·6	23,720	640	26·5
1903	46,887	650	13·9	42,101	662	15·7	25,253	448	17·8	15,561	299	19·2	20,412	425	20·8	23,768	499	21·0
1904	47,658	821	17·2	43.033	769	17·9	25,284	509	20·1	15,669	336	21·5	20,425	439	21·5	23,615	582	24·7
Wards	ST. MARY'S.			ST. BARTHOLOMEW'S.			MARKET HALL.			ST THOMAS'.			ST. MARTIN'S.			EDGBASTON AND HARBORNE.		
1899	15,536	476	30·7	26,947	732	27·2	11,030	207	18·8	18,682	428	22·9	23,941	503	21·0	30,313	418	13·8
1900	15,570	475	30·4	27,003	749	27·7	10,858	234	21·5	19,057	399	20·9	24,143	527	21·9	30,718	441	14·4
1901	15,904	472	29·7	26,857	696	25·9	9,807	171	17·4	19,215	402	20·9	23,950	485	20·3	30,795	402	13·1
1902	15,993	405	24·8	26,876	678	24·6	9,570	165	16·9	18,586	381	20·1	24,097	499	20·3	31.200	390	12·3
1903	16.248	375	23·1	26,572	647	24·4	9,483	154	16·3	18,559	347	18·7	24,019	404	16·8	31,311	380	12·1
1904	15,859	382	24·1	25,801	741	28·7	9,163	162	17·7	18,764	338	18·0	24,469	461	18·8	31.287	399	12·7
Wards	DERITEND.			BORDESLEY.			DUDDESTON.			NECHELLS.			BALSALL HEATH.			SALTLEY.		
1899	25,346	618	24·4	52,206	807	15·5	24,038	512	21·3	33,773	761	22·5	38,120	666	17·5	36,717	672	18·3
1900	24.771	645	26·0	53,770	851	15·8	24,274	569	23·4	33,701	739	21·9	38,579	619	16·0	40,829	681	16·7
1901	24,704	550	22·3	54.686	843	15·4	23,921	555	23·2	33,624	760	22·6	38,827	582	15·0	42,250	741	17·6
1902	24,516	507	20·3	55.606	761	13·4	23,773	517	21·3	33,384	636	18·7	39,025	589	14·8	44,185	679	15·1
1903	24,077	517	21·5	56,825	758	13·3	23,541	463	19·7	33,710	570	16·9	39,359	531	13·5	45,427	714	15·7
1904	24,157	532	22·0	55,596	843	15·2	23,451	538	22·9	33,346	765	22·9	40,140	595	14·8	46,761	784	16·8

NOTE.—The inmates of large Institutions are not included in the Ward populations, and the deaths amongst them have been referred, as far as possible, to the Wards in which the deceased persons had previously resided.

TABLE III.

Cases of Infectious Disease Notified during the Year 1904.

Classified according to ages, wards, and institutions.

DISEASE	AGES.													WARDS.																		Institutions.	City.
	Under 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45	45 to 55.	55 to 65.	65 to 75.	75 to 85.	85 and up.	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston and Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath.	Saltley.		
Smallpox	..	1	..	..	1	4	1	1	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	1	..	..	..	..	2	..	1	..	8
Scarlet Fever .	26	547	662	214	84	67	44	12	3	..	..	..	..	206	148	111	38	83	85	20	59	19	52	68	79	67	143	51	69	167	143	51	1659
Diphtheria ..	9	158	177	72	34	34	60	26	8	5	1	2	..	66	45	50	17	8	8	7	42	4	20	23	36	27	69	29	25	43	58	9	586
Membranous Croup	3	31	8	2	..	..	..	..	..	..	..	..	..	1	4	2	..	2	2	3	10	1	1	3	1	2	1	..	2	4	5	..	44
Typhus Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever .	..	8	31	27	40	45	54	30	10	1	2	..	..	22	13	9	5	12	25	19	12	2	10	8	8	17	21	12	15	17	18	3	248
Continued Fever .	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever ..	..	..	..	..	..	10	16	10	..	..	..	..	..	3	..	2	..	..	3	1	4	..	1	2	..	1	3	2	10	3	1	..	36
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas ..	22	31	26	33	31	42	89	108	91	67	37	17	3	60	45	43	13	7	21	11	59	12	16	24	23	17	56	28	45	33	59	25	597
TOTALS	60	776	904	348	191	202	264	187	112	73	40	19	3	358	256	217	73	112	144	64	186	39	100	129	147	131	293	122	168	267	285	88	3179

TABLE IV.

Deaths Registered in or Belonging to the City of Birmingham during the Year ending December 31st, 1904.

DISEASES.	AGES.													All Ages.		
	0–	1–	5–	10–	15–	20	25–	35–	45–	55–	65–	75–	85-	Males.	Females.	Persons.
Smallpox:																
(*a*) Vaccinated	..		..	..	..	..	..	..	..	..	..	..	..	..	..	.
(*b*) Unvaccinated	..	..	..	..	..	..	.	.	..	..	..	..	..	..	.	..
(*c*) No Statement	..	.	..	.	..	..	..	..	..	..	.	.	..	.	..	..
Measles	47	141	17	..	..	..	2	..	..	..	..	..	..	106	101	207
Scarlet Fever	6	36	16	3	..	..	3	..	1	..		..	..	30	35	65
Typhus Fever	..	.	..	..	..	..	..	..	..	..	..	..	..	.	..	..
Epidemic Influenza	2	4	1	..	..	4	4	6	11	15	13	8	..	29	39	68
Whooping Cough	210	246	11	..	..		..	..	.	..	..	..	..	221	246	467
Diphtheria, Membranous Croup	4	64	37	6	.	2	..	1	.	.	1		..	59	56	115
Enteric Fever	..	1	1	3	4	7	11	6	1	1	1	..	.	22	14	36
Asiatic Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	.	.	..
Diarrhœa, Dysentery	383	73	1	..		..	..	2	3	3	13	4	1	271	212	483
Epidemic Enteritis	381	86	1	..	..	..	.	1	1	..	1	1	..	232	240	472
German Measles	..	1	..	..				..				.	..	1	..	1
Chicken Pox	1	..	..										..	1	..	1
Mumps	.	1	..	..	..	..	..	..	..		..	..		1	..	1
Epid. Cerebro Spinal Meningitis	..	..	..	..	..	..	..	..	.	.	..	..			..	..
Hydrophobia	..	..	..	..	..	..	..	..		.	..	..	..	.	..	..
Glanders, Farcy	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	.	..	..	..	.	.	.	..	..	..	..	..	..	..	..	..
Anthrax, Splenic Fever	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..
Cowpox, Accidents of Vaccinat'n	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Syphilis	14	3	..	..	..	..	3	..	..	1	1	..	..	10	12	22
Gonorrhœa	..	..	..		..	..	..	..	2	1	1	..	..	4	..	4
Phagedæna	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	6	2	..	..	..	..	1	4	3	5	4	3	1	13	16	29
Puerperal Fever	..	..	..	..	..	12	8	7	.	..	..	..	..	..	27	27
Pyæmia, Septicæmia	2	3	1	..	2	..	1	2		3	..	..	..	8	6	14
Infective Endocarditis	..	1	..	1	..	2	5	..	1	.	..	..	.	5	5	10
Cellulitis	2	..	..	..	..	..	..	1	1	..	2	1	..	4	3	7
Cancrum Oris	1	5	..	..	..	..	..	..	..	..	..	..	..	3	3	6
Stomatitis	5	2	..	..	..	..	..	..	1	.	..	..	..	5	3	8
Carbuncle	..	..	..	..	..	..	..	..	..	1	..	1	..		2	2
Other Allied Diseases	1	..	..	..		..		..					..	.	1	1
Malarial Fever	..	..	..	..	..	..	..	..	.	1	.	.	..	1	..	1
Rheumatic Fever	..	..	3	6	1	..	2	2	1	2	1	.	..	9	9	18
Rheumatism of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..
Tuberculosis of Brain	21	32	9	4	1	2	.	1	2	1	..	.	..	40	33	73
Tuberculosis of Larynx	.	..	..	..	..	..	1	1	1	..	.	..	..	2	1	3
Phthisis	5	21	5	9	42	67	175	201	176	83	19	3	..	518	288	806
Abdominal Tuberculosis	54	39	4	2	2	1	3	..	..	2	..			63	44	107
General Tuberculosis	11	19	7	5	2	1	5	7	..	2	2	..	..	29	32	61
Other forms of Tuberculosis	2	2	4	1	1	1	1	4	2	1	1	1	..	13	8	21
Thrush	4	1	..	..	..	..	..	..	..	..	..	..	..	3	2	5
Actinomycosis		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydatid Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Acute Alcoholism	..	..	.	..	..	..	1	5	1	1	..	..	..	4	4	8
Chronic Alcoholism	..	..	..	..	..	..	4	6	5	8	1	..	..	8	16	24
Lead Poisoning	..	..	..	..	..	..	1	1	1	..	.	..	..	3	..	3
Other Chronic Poisonings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Osteo-arthritis, Rheumatism	..	..	..	5	..	..	1	1	7	7	7	4	..	15	17	32
Gout	..	..	..	..	..	..	..	..	3	6	6	..	..	10	5	15
Cancer	4	..	1	..	1	6	12	41	114	94	94	30	3	172	228	400
Diabetes Mellitus	..	..	1	2	..	2	1	4	8	9	10	3	..	22	18	40
Purpura Hæmorrhagica	1	1	..	..	..	..	..	..	..	1	..	..	..	1	2	3
Hæmophilia	..	..	1	..	1	..	..	..	..	..	..	..	..	2	..	2
Anæmia	1	1	1	1	1	3	2	3	4	3	4	.	..	10	14	24
Lymphadenoma	..	..	..	1	..	..	2	..	..	1	..	..	..	3	1	4
Premature Birth	377	..	..	..	..	..	..	..	..	..	..	..	..	218	159	377
Injury at Birth	16	..	..	..	..	..	..	..	..	..	..	..	..	6	10	16
Debility at Birth	233	..	..	..	..	..	..	..	..	..	..	..	..	143	90	233
Atelectasis	26	..	..	..	..	..	..	..	..	..	..	..	..	14	12	26
Congenital Defects	59	9	1	..	..	..	..	..	..	1	..	..	..	47	23	70
Want of Breast Milk	23	..	..	..	..	..	..	..	..	..	..	..		13	10	23
Atrophy, Debility, Marasmus	336	52	1	..	..	..	..	..			..	.	..	207	182	389
Dentition	18	13	..	..	..	..	..	..	..	..	..	..	..	16	15	31
Rickets	12	20	1	.	1	..	..	..	..	..	..	..	..	21	13	34
Old Age, Senile Decay	..	.	.	.	..	..	..		..	7	99	228	70	155	249	404

TABLE II—*continued.*

DEATHS REGISTERED IN OR BELONGING TO THE CITY OF BIRMINGHAM DURING THE YEAR ENDING DECEMBER 31ST, 1904.

DISEASES.	AGES.													All Ages.		
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85—	Males.	Females.	Persons.
Convulsions	144	38	1	..	..	..	1	..	..	..	..	..	..	107	77	184
Meningitis	54	82	16	3	3	..	4	6	6	7	5	..	..	95	91	186
Encephalitis	1	3	.	..	..	..	..	..	1	1	..	..		2	4	6
Apoplexy	..	..	..	..	..	1	2	5	17	23	37	16	1	57	45	102
Softening of Brain	..	..	..	..	..	..	..	..	9	3	10	4	..	15	11	26
Hemiplegia	..	1	..	..	..	..	1	2	9	15	26	9	2	29	36	65
General Paralysis of Insane	..	..	..	..	..	..	2	13	8	1	4	..	..	24	4	28
Other Forms of Insanity	..	..	..	1	..	..	..	..	..	2	10	8	2	9	14	23
Chorea	..	..	..	..	1	2	..	..	..	..	..	1	..	1	3	4
Cerebral Tumour	..	..	2	..	1	4	..	5	3	.	1	..	..	7	9	16
Epilepsy	..	1	3	2	4	4	8	9	14	5	4	2	..	30	26	56
Laryngismus Stridulus	2	2	..	..	..	..	..	.	..	..	..	..	..	1	3	4
Locomotor Ataxy	..	..	..	..	..	..	..	1	2	6	2	1	..	9	3	12
Paraplegia	..	..	1	1	3	1	2	2	8	6	5	5	..	20	14	34
Neuritis	..	..	..	..	..	..	2	..	3	2	2	1	..	3	7	10
Other Diseases of Brain or Nerves	3	..	1	..	1	.	1	2	1	1	9	..	..	8	11	19
Otitis	6	4	4	2	2	1	2	..	..	1	..	..	..	15	7	22
Diseases of Nose, Epistaxis	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Diseases of Eye	..	..	..	.	..	..	..	1	..	..	..	..	..	1	..	1
Pericarditis	..	2	1	1	..	1	..	..	1	..	..	..	..	3	3	6
Endocarditis, Valvular Disease	.	..	4	8	13	3	19	30	30	35	36	6	..	89	95	184
Hypertrophy of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Angina Pectoris	..	.	..	..	..	..	..	1	1	2	3	1	1	5	4	9
Heart Disease (not defined)	10	1	6	5	7	5	19	52	88	92	98	42	5	196	234	430
Aneurism	..	..	..	..	..	..	1	3	3	4	4	..	..	13	2	15
Senile Gangrene	..	..	..	..	..	..	..	..	..	..	8	4	1	7	6	13
Embolism, Thrombosis	1	..	..	..	1	1	3	..	8	6	14	4	1	18	21	39
Phlebitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Varicose Veins	..	..	.	..	..	..	..	..	1	..	..	..	..	..	1	1
Cerebral Hæmorrhage	.	..	..	1	1	..	3	10	24	54	62	25	2	92	90	182
Other Dis. of Heart or Vessels	1	..	..	1	..	..	2	5	7	12	11	7	..	27	19	46
Laryngitis	2	5	1	..	..	..	..	..	..	1	..	..	..	6	3	9
Croup	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	2
Acute Bronchitis	257	103	5	..	1	1	2	6	17	23	17	7	2	240	201	441
Chronic Bronchitis	4	4	2	2	2	1	9	32	85	133	205	132	21	313	319	632
Lobar Pneumonia	13	13	3	2	8	4	13	19	18	18	9	2	1	83	40	123
Lobular Pneumonia	176	180	9	4	..	..	5	7	8	14	11	8	1	212	211	423
Pneumonia (not defined)	54	64	9	1	8	12	29	47	36	34	39	16	1	211	139	350
Emphysema, Asthma	..	..	..	..	..	..	5	1	5	8	4	2	..	17	8	25
Pleurisy	1	3	1	..	2	5	4	1	4	2	4	1	..	14	14	28
Bronchiectasis	..	1	..	..	..	..	..	1	2	1	1	..	..	4	2	6
Fibroid Phthisis	..	..	..	..	..	..	..	2	2	1	3	..	..	6	2	8
Other Dis. Respiratory system	..	..	..	..	..	..	1	1	..	1	..	..	..	3	..	3
Tonsillitis	..	..	..	1	..	..	..	..	..	.	..	..	..	1	..	1
Other Dis. of Mouth and Annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Pharynx	..	..	..	..	..	..	1	..	..	..	.	..	..	1	..	1
Diseases of Œsophagus	..	..	..	..	..	..	..	1	..	..	1	..	..	1	1	2
Ulcer of Stomach and Duodenum	..	1	..	..	2	..	7	7	2	4	2	1	..	17	9	26
Other Diseases of Stomach	63	11	1	..	1	3	3	4	5	8	7	3	2	55	56	111
Enteritis	92	16	1	1	1	1	2	6	8	12	10	4	1	85	70	155
Appendicitis	..	2	6	7	6	4	5	2	4	2	..	..	..	23	15	38
Obstruction of Intestine	10	1	5	1	..	1	5	5	4	12	12	4	1	33	28	61
Other Diseases of Intestine	1	..	1	..	..	..	..	..	.	1	..	..	..	2	1	3
Cirrhosis of Liver	..	..	..	..	..	1	5	16	17	23	7	2	..	38	33	71
Other Diseases of Liver	2	1	..	..	..	..	2	5	5	10	7	..	.	12	20	32
Peritonitis	2	1	2	1	..	3	2	4	1	7	3	..	..	9	17	26
Other Dis. of Digestive system	2	1	.	..	..	..	..	3	1	..	..	2	..	4	5	9
Diseases of Lymphatic System and Ductless Glands	2	.	..	..	..	2	1	1	..	2	2	..	..	6	4	10
Acute Nephritis	7	7	4	2	3	2	6	10	12	13	11	4	1	42	40	82
Bright's Disease	..	..	..	..	1	2	12	22	35	38	26	6	..	80	62	142
Calculus	..	.	..	1	..	..	..	..	.	1	..	..	..	1	1	2
Diseases of Bladder and Prostate	..	..	..	..	..	1	..	..	4	8	6	5	..	23	1	24
Other Diseases, Urinary System	..	..	..	..	..	..	2	.	2	..	..	..	..	3	1	4

TABLE IV—*continued.*

DEATHS REGISTERED IN OR BELONGING TO THE CITY OF BIRMINGHAM DURING THE YEAR ENDING DECEMBER 31ST, 1904.

DISEASES.	AGES.													All Ages.		
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85—	Males.	Females.	Persons.
Diseases of Testis and Penis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Ovaries	..	.	..	..		..	..		..	1	..	2	..	..	3	3
Diseases of Uterus and Appendages	..	..	..	1	..	1	2	8	1	..	2	..	..	..	15	15
Diseases of Vagina and External Genitals	..	.		..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Breast	.	..	..	..	.		..	..	..	..	..	..	..	..	..	..
Abortion, Miscarriage	..	.	..	..	..		2	1	..	..	..	..	..	..	3	3
Puerperal Mania	..	..	..		..	.		..	..	..	..	..	..	..	..	..
Puerperal Convulsions	..	..	.	..	..	3	2	1	..	..	..		..	..	6	6
Placenta Prævia, Flooding ..	..	..	..	..	..	1	2	5	..	..		..	..	..	8	8
Puerperal Thrombosis	.	..	.	..	..	1	1	.	..	..	..	..		..	2	2
"Parturition"	..	..	..	..		2	3	1	..	..	..	..	..	..	6	6
Other Diseases, Pregnancy and Childbirth..		..	..	..	1	..	1	1	..	..	..	..	..	..	3	3
Arthritis, Ostitis, Periostitis ..	3	1	5	1	2	..	1	1	3	1	..	..	..	9	9	18
Spinal Curvature	.	..	..	.	1	.	..	1	..	..	..	..	..	..	2	2
Other Diseases, Osseous System	.	1	1	..	..	.	..	..	..	1	1	..	..	2	2	4
Ulcer, Bedsore	..	..	..	..	..	..	..	..	..	1	1	2	..	2	2	4
Eczema	..	2	..	..	..	..	..	.	..	..	..	1	..	.	3	3
Pemphigus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases, Integumentary System	1	1		..	..	..	..	..	.	..	..	..	..	.	2	2
Accidents or Negligence:																
In Mines and Quarries	..	.	.	.	..	..	..	..	..	..	..	..	..	..	..	..
In Vehicular Traffic	..	9	2	3	.	1	1	2	7	4	1	..	..	22	8	30
On Railways	..	..	.	..	..	..	1	..	..	2	..	.		3	..	3
On Ships, Boats, &c.	..	..	..	..		.		..		..	..	..	..	..	..	..
In Building Operations	..	..	..	.	..	..	..	4	..	2	..	..	..	6	..	6
By Machinery	..	..	..	1	..	..	1	1	..	..	..	..	..	3	..	3
By Weapons and Implements ..	..	1	..		..	..	..	..	..	..	1	..	..	2	..	2
Burns and Scalds	4	26	14	1	.	..	3	5	4	..	1	..	..	23	35	58
Poisons, Poisonous Vapours ..	..	1	..	1	1	1	..	2	.	2	..	..	..	4	4	8
Surgical Narcosis	.	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1
Effects of Electric Shock	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Corrosion by Chemicals	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..
Drowning	2	..	4	1	3	1	1	2	2	1	..	..	..	11	9	20
Suffocation, Overlaid in Bed ..	83	1	..		.	..	..	..	..	.	..	..	..	46	38	84
,, Otherwise	13	1			.	..	..	1	..	..	..	.	..	8	7	15
Falls, not specified	1	3	..	.	1	..	3	3	10	8	7	5	..	20	21	41
Weather Agencies	..	2	.	..	..	..	..	..	..	..	2	1	.	2	8	5
Otherwise, not stated	7	2		..	..	1	2	1	2	3	1	1	..	12	8	20
Homicide	.	..	.	.	..	1	..	2	..	.	.	..	..	..	3	3
Suicides:																
By Poison	.	.		..	2	1	2	4	1	1	1	..	..	7	5	12
By Asphyxia	..			.	.	..	.	2	..	.	..	..	..	2	..	2
By Hanging and Strangulation				.		..	..	4	5	3	..	1	..	8	5	13
By Drowning	..			.	1	..	..	1	4	1	..	..	..	3	4	7
By Shooting				.	..	1	1	1	2	..	.	..	..	5	..	5
By Cut or Stab				..	..	.	1	1	2	1	1	..	..	8	1	9
By Precipitation from Elevated Places		.		.	..	.	..	..	..	..	.	..	..	.	..	..
By Crushing	.		.	..	..	..		1		1	1	..	..	3	.	3
By Other and Unspecified Methods	..	..	..	.	..	.	.	..	..	..	..	..	.	..	..	..
Execution	..			.		.	2	..	..	..	..	..	..	2	..	2
Sudden Death, cause not ascertained	.		..		.	..	.	.	1	..	..	.	..		1	1
Ill defined and unspecified causes	7	4	..	1	.	2	..	5	3	9	2	1	..	15	19	34
TOTALS .	3302	1483	240	107	143	193	478	718	918	960	1041	636	121	5451	4889	10340

TABLE V.

Deaths Registered in, or Belonging to, each Ward during the Year ending December 31st, 1904.

CAUSES OF DEATH.	WARDS.																			
	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath.	Saltley.	Not located.	City.
lpox	..	.	..	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
les	9	12	9	1	13	5	1	25	2	4	9	3	14	26	7	29	8	21	9	207
et Fever	11	7	9	3	4	2	..	..	1	2	2	3	2	2	1	2	7	5	2	65
us Fever	.		..			.	..	.	.		..	..	..	..	..	..	..		..	..
emic Influenza	5	8	4	1	2	..	1	6	1	1	1	5	1	15	1	4	3	5	4	68
oping Cough	50	39	36	21	22	48	20	19	3	10	14	8	26	29	23	41	21	31	6	467
theria, Memb. Croup	9	7	6	1	3	1	3	16	1	4	5	4	9	17	2	8	8	11	..	115
p	1		.	..	..	..	.	..	..	..	.	..	..	..	..		..	1		2
ric Fever	3	2	1	1	2	3	1	4	..	..	2	..	1	4	2	4	3	3	..	36
ic Cholera	.	..		.	..	..	..	..	..	..	..			..	.	..	..	..	..	..
rhœa, Dysentery	34	34	26	23	17	15	16	46	9	17	30	11	26	45	17	31	23	42	21	483
em. or Zymotic Enteritis	44	30	14	8	28	45	36	58	4	16	9	16	28	13	32	39	21	30	1	472
ritis	8	20	3	5	18	4	5	7	.	4	3	8	12	10	9	8	13	7	11	155
r Continued Fevers	..	1	..		..	..	.	1	..	..	..	..	..	1	..		..	..	..	3
ipelas	3	1	..	2	..	2	1	1	1	.	4	..	..	2	4	3	1	3	1	29
peral Fever	1	..	3	..	..	1	1	3	..	..	2	..	2	3	2	6	2	1	..	27
r Septic Diseases	2	3	3	1	1	2	4	3	..	1	3	2	6	4	5	2	2	2	2	48
mittent Fever and Malarial Cachexia	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	.	..	1	..	1
rculosis of Meninges	9	4	10	1	1	2	..	5	1	2	5	3	6	11	2	3	3	3	2	73
rculosis of Lungs	48	54	44	35	36	51	43	59	13	26	57	22	39	70	38	53	45	40	33	806
ominal Tuberculosis	7	12	5	7	5	7	3	5	..	1	5	..	12	7	8	11	7	3	2	107
r forms of Tuberculosis	6	5	9	5	4	1	2	4	1	3	3	4	2	9	7	5	9	3	3	85
holism	4	3	1	2	5	1	1	4	1	..	..	1	2	3	..	1	1	2	..	32
er..	46	33	26	9	8	15	6	22	7	7	21	30	19	39	17	22	35	27	11	400
mature Birth	38	31	18	19	15	23	8	21	7	15	21	8	15	42	18	18	14	35	11	377
genital Defects	33	20	18	5	18	13	14	23	4	12	7	7	20	29	26	31	18	42	5	345
elopmental Diseases	39	36	22	9	23	23	20	34	5	21	25	12	39	18	29	46	27	32	17	477
Age	31	23	23	17	14	16	12	16	12	12	10	24	18	35	20	29	27	29	36	404
ingitis	6	11	5	..	8	17	7	16	1	6	7	6	6	18	12	26	9	23	2	186
ulsions	14	13	6	1	7	16	5	20	1	7	7	7	7	15	16	12	9	20	1	184
ases of Heart	54	58	29	24	21	34	15	36	15	16	33	39	28	59	41	36	48	36	23	645
bral Hæmorrhage	12	10	8	5	8	10	8	9	2	5	9	9	12	14	11	12	18	12	8	182
chitis	66	87	41	37	59	82	48	74	18	37	35	26	59	94	51	87	71	78	23	1073
monia	75	56	42	26	33	64	27	80	9	32	37	28	42	60	48	72	45	94	26	896
ases of Stomach	3	8	3	3	1	12	17	6	5	2	10	6	3	12	11	21	5	7	2	137
ruction of Intestines	10	5	3	2	3	1	2	3	..	1	3	1	6	5	2	2	4	5	3	61
hosis of Liver	4	6	4	7	1	4	3	4	..	1	6	5	4	5	3	2	6	5	1	71
hritis and Bright's Dis.	16	14	7	10	11	10	5	19	7	16	12	15	8	18	11	13	14	13	5	224
ours and other Affections f Female Genital Organs	2	3	..	1	..	1	..	1	..	..	..	1	..	1	..	2	4	1	1	18
idents and Diseases of Parturition	7	2	2	1	1	2	.	..	..	..	..	2	..	2	3	2	1	3	..	28
idents or Negligence	13	30	14	9	11	15	11	31	7	9	12	7	15	20	17	25	7	30	12	295
ides	3	5	2	2	3	2	2	4	1	.	1	2	1	8	..	4	4	7	..	51
lefined Causes	6	2	..	2	..	2	1	3	..	..	1	1	2	4	2	1	3	1	4	35
ther Causes	89	74	53	30	33	30	33	53	23	48	50	73	40	74	40	52	49	70	56	970
TAL DEATHS	821	769	509	336	439	582	382	741	162	338	461	399	532	843	538	765	595	784	344	10340

TABLE VI.

Deaths under One Year Registered in, or Belonging to, each Ward during the Year ending December 31st, 1904.

CAUSES OF DEATH.	WARDS																		
	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St George's.	St. Stephen's.	St Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas's.	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath.	Saltley.	Not located.
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..
Measles	3	3	3	..	3	..	1	6	..	1	2	1	1	11	..	4	..	6	2
Scarlet Fever	..	1	2	1	..	..	..	..	..	..	.	1	..	..	..	..	..	1	..
Epidemic Influenza	..	..	..	..	..	..	..	..	..	.	.		..	1			1	..	..
Whooping Cough	21	19	15	7	9	23	10	10	2	3	10	4	9	13	11	18	13	13	.
Diphtheria, Memb. Croup ..	1	.	..	..	..	.	.	1	.	..	..		..	1	..	.	..	1	
Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Enteric Fever	.	..	..	..	..	..	.	..	..	..		..	.	..	..	..	..	..	.
Diarrhœa, Dysentery	29	28	21	19	13	14	12	32	7	12	24	10	23	39	12	23	19	30	16
Epidem. or Zymotic Enteritis	37	25	12	5	24	33	29	44	3	11	9	15	19	12	25	30	19	28	1
Enteritis	6	17	2	5	13	3	2	4	..	3	1	4	6	6	4	4	9	2	1
Other Continued Fevers ..	..	..	..	..	..	..	..	.	.	..	..			1	..	..	..	..	.
Erysipelas	1	..	..	1	..	..	..	..			.	..	..	..	2	1	..	1	..
Other Septic Diseases	..	1	..	1	1	..	.	..	.	..	1	..	1	2	..	1	1	1	1
Tuberculosis of Meninges ..	1	1	4	..	1	1	..	1	..	1	2	1	1	3	..	1	..	2	1
Tuberculosis of Lungs	..	..	1	..	1	1	..	1	..	.		.	..	1	.	..	..	..	.
Abdominal Tuberculosis ..	6	6	2	4	4	2	2	3	..	1	1	..	6	2	5	4	4	2	.
Other forms of Tuberculosis	1	1	..	2	1	..	1	1	..	..	1	1	1	.	2			1	.
Cancer..	..	..	..	.	..	..		1	.	..	1	..	1			1	.	..	.
Premature Birth	38	31	18	19	15	23	8	21	7	15	21	8	15	42	17	18	14	36	11
Congenital Defects..	33	19	16	5	18	13	14	22	4	11	7	7	20	27	26	28	18	41	5
Developmental Diseases ..	32	30	17	7	18	18	15	28	3	19	23	10	31	12	27	36	21	27	15
Meningitis..	..	3	1	..	4	9	2	2	1	3	1	4	2	3	2	11	..	6	..
Convulsions	12	10	5	1	4	12	4	15	1	5	6	5	5	12	11	10	9	16	1
Diseases of Heart	2	..	1	..	..	2	..	1	..	..	.	1	.	..	1	..	..	2	..
Bronchitis	20	23	9	11	16	25	11	14	2	7	7	3	15	23	18	22	11	24	..
Pneumonia	13	10	15	6	12	11	12	15	2	16	8	4	14	17	11	28	15	29	5
Diseases of Stomach . ..	1	3	1	..	..	9	12	3	3	1	2	..	1	4	5	13	3	2	..
Obstruction of Intestines ..	3	2	1	..	..	..		..	..		..	.	..	2	.	.	1	1	..
Nephritis and Bright's Dis...	..	..	.	..	..	..	..	..	..	..	..	2	..		1	2	..	1	1
Accidents or Negligence .	6	7	8	3	4	7	4	19	2	5	1		3	9	8	10	2	10	2
Ill-defined Causes . .	1							1						1					4
All other Causes . ..	2	4	4		3	1	2	9	..	2	2		3	5	1		3	8	3
TOTAL DEATHS	270	243	158	97	164	207	141	254	37	116	130	81	177	249	189	265	163	292	69

TABLE VII.—COMPARISON OF PREVALENCE OF SICKNESS AND DEATH FROM INFECTIOUS DISEASES.

(Rates calculated per 1,000 persons on the population estimated to the middle of each year.)

Year.	Smallpox.		Scarlet Fever.		Diphtheria, Membranous Croup.		Typhus Fever.		Typhoid Fever.		Puerperal Fever.		Erysipelas.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
*1890	...	...	7·31	0·49	0·69	?	0·00	...	0·66	0·14	0·03	0·00	0·97	0·04
*1891	0·11	0·02	3·42	0·21	0·48	?	...	...	0·93	0·18	0·03	0·01	0·86	0·03
1892	0·06	...	2·94	0·14	1·10	0·21	...	...	0·54	0·08	0·08	0·05	1·18	0·07
1893	2·01	0·14	3·31	0·14	0·79	0·17	0·01	...	1·00	0·19	0·11	0·08	1·75	0·05
1894	4·22	0·35	3·64	0·15	0·83	0·18	...	...	1·04	0·21	0·09	0·04	1·57	0·03
1895	0·20	0·02	6·00	0·27	1·50	0·43	...	...	0·88	0·17	0·05	0·03	1·65	0·04
1896	0·03	0·01	6·65	0·32	2·35	0·58	...	...	0·95	0·21	0·06	0·04	1·54	0·04
1897	...	...	3·81	0·19	1·41	0·32	0·00	0·00	1·06	0·18	0·03	0·02	1·16	0·04
1898	...	...	2·60	0·09	1·36	0·26	...	...	1·25	0·22	0·05	0·03	1·25	0·03
1899	...	...	2·44	0·06	1·40	0·29	...	...	1·52	0·23	0·06	0·03	1·23	0·04
1900	0·00	...	3·98	0·18	1·05	0·15	...	...	1·64	0·35	0·08	0·05	1·31	0·05
1901	...	...	6·35	0·29	1·02	0·16	...	...	1·18	0·21	0·06	0·05	1·39	0·04
1902	0·13	0·01	9·39	0·55	1·47	0·24	...	...	1·01	0·19	0·07	0·04	1·42	0·06
1903	0·47	0·02	5·33	0·27	1·66	0·25	...	...	0·65	0·12	0·06	0·04	1·21	0·04
1904	0·01	...	3·09	0·12	1·17	0·21	...	...	0·46	0·07	0·07	0·05	1·11	0·05

* Prior to enlargement of City.

TABLE VIII.

NUMBER OF CASES REPORTED UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889, DURING EACH WEEK OF THE YEAR 1904.

Week.		Smallpox.	Scarlet Fever.	Diphtheria.	Membranous Croup.	Typhus Fever	Typhoid Fever.	Simple Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Chickenpox.	TOTAL.
Number.	Date of ending.													
	1904.													
1	January 9th	1	34	14	...	...	4	...	...	1	...	16	57	127
2	,, 16th	...	32	19	1	...	...	...	...	3	...	14	37	106
3	,, 23rd	...	40	9	3	...	7	...	...	...	...	8	27	94
4	,, 30th	...	32	15	2	...	1	...	...	1	...	5	39	95
5	February 6th	...	37	13	..	...	3	...	...	...	...	12	34	99
6	,, 13th	...	31	15	...	...	3	...	...	...	...	15	27	91
7	,, 20th	...	36	12	1	...	7	...	..	..	...	10	31	97
8	,, 27th	..	29	13	3	...	2	...	...	..	...	16	37	100
9	March 5th	...	26	12	...	...	4	.	...	2	...	14	36	94
10	,, 12th	..	26	13	1	...	2	1	...	...	...	13	35	91
11	,, 19th	1	31	8	3	...	1	...	...	1	...	10	37	92
12	,, 26th	...	22	13	3	..	7	...	...	...	...	15	...	60
13	April 2nd	...	35	12	1	...	7	...	...	...	...	9	...	64
14	,, 9th	...	35	11	1	...	4	...	...	2	...	7	...	60
15	,, 16th	...	38	14	1	...	2	...	...	2	...	9	.	66
16	,, 23rd	...	31	7	...	...	2	...	...	1	...	4	...	45
17	,, 30th	...	23	10	..	..	7	...	...	...	...	19	...	59
18	May 7th	1	33	9	...	...	8	...	...	..	...	10	...	61
19	,, 14th	1	23	7	1	...	3	...	...	...	...	7	...	42
20	,, 21st	...	44	8	1	...	6	...	...	1	...	11	...	71
21	,, 28th	...	19	10	1	...	2	...	...	...	...	6	...	38
22	June 4th	2	23	10	1	...	1	..	...	1	...	9	...	47
23	,, 11th	...	21	11	...	...	3	...	...	1	...	11	...	47
24	,, 18th	...	30	8	...	...	3	...	...	...	...	13	.	54
25	,, 25th	1	30	8	...	...	4	...	...	1	...	9	...	53
26	July 2nd	..	44	12	1	...	4	. .	...	...	...	9	...	70
27	,, 9th	1	30	12	1	...	2	...	...	...	...	10	...	56
28	,, 16th	...	54	8	...	...	3	...	...	2	...	8	...	75
29	,, 23rd	...	42	16	1	...	3	...	...	1	...	13	...	76
30	,, 30th	...	34	6	2	...	4	..	...	1	..	13	...	60
31	August 6th	...	21	12	1	...	4	...	...	1	...	11	...	50
32	,, 13th	...	29	6	...	...	4	...	...	2	...	8	...	49
33	,, 20th	...	18	7	...		4	...	...	1	...	11	...	41
34	,, 27th	...	26	8	...	...	5	...	...	1	...	11	...	51
35	September 3rd	...	45	4	...	...	2	...	...	...	...	12	...	63
36	,, 10th	...	31	10	..	...	2	...	...	...	...	14	...	57
37	,, 17th	...	33	12	...	. .	6	...	...	...	...	14	...	65
38	,, 24th	...	40	13	1	...	5	...	...	...	...	13	..	72
39	October 1st	...	47	11	1	...	6	...	...	...	...	12	...	77
40	,, 8th	..	39	14	...	...	11	...	...	2	...	14	...	80
41	,, 15th	...	39	13	...	...	6	...	...	1	...	14	...	73
42	,, 22nd	...	38	17	5	..	14	...	...	...	...	8	...	82
43	,, 29th	...	40	11	...	...	10	...	...	...	...	16	..	77
44	November 5th	..	38	6	2	..	6	...	...	...	...	11	...	63
45	,, 12th	...	22	13	...	...	17	...	...	...	...	15	...	67
46	,, 19th	...	38	18	1	...	3	...	...	2	...	17	...	79
47	,, 26th	...	18	12	1	...	9	...	...	1	...	10	...	51
48	December 3rd	...	27	17	1	...	5	..	...	...	..	7	...	57
49	,, 10th	...	40	17	...	...	11	...	...	1	...	16	...	85
50	,, 17th	...	22	14	1	...	6	...	...	1	...	11	...	55
51	,, 24th	...	23	9	...	...	2	...	...	...	...	8	...	42
52	,, 31st	...	20	7	1	..	1	...	...	2	...	19	...	50
	TOTALS ...	8	1659	586	44	...	248	1	...	36	...	597	397	3576

Cases removed to City Hospital: Smallpox, 8 : Scarlet Fever, 1,437 ; Typhoid Fever, 119

TABLE IX.

Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1904.

Observed at the Birmingham and Midland Institute Observatory, Edgbaston, by Mr. Alfred Cresswell.

MONTH.	TEMPERATURE OF THE AIR.						TEMPERATURE OF THE GROUND.		HOURS OF SUNSHINE.		RAINFALL IN INCHES.		DAYS ON WHICH 0·01 INCH OR MORE OF RAIN FELL.	MILES OF WIND.	
	Highest in the shade.		Lowest in the shade.		Mean for the Month.										
	1904.	Above or below the previous highest. *	1904.	Above or below the previous lowest. *	1904.	Above or below the average. *	Maximum at 1 foot deep.	Maximum at 4 feet deep.	1904.	Above or below the average. *	1904.	Above or below the average. *		1904.	Above or below the average. *
JANUARY ...	52·0	− 6·0	25·5	+14·7	38·8	+ 1·3	48·5	45·0	19	− 15	2·92	+ 1·07	17	10158	+ 107
FEBRUARY ...	51·9	−10·0	23·8	+15·8	37·1	− 0 9	42·3	43·9	35	− 19	3 80	+ 2·33	19	9358	+ 170
MARCH ...	57·2	− 7·6	26 1	+ 4·8	39·7	− 1·1	44·2	43·0	71	− 17	1·54	− 0 18	15	9759	− 623
APRIL	63·0	−16·0	35·3	+ 8·4	47·7	+ 2·4	48·0	45·2	148	+ 33	1·12	− 0·30	10	11470	+2293
MAY	69·7	− 7·9	33·0	+ 2·0	51·6	+ 0·6	52·9	48·2	125	− 14	2·25	+ 0·19	14	8683	− 450
JUNE	74·7	− 8·1	43·5	+ 5·9	56·0	− 1·6	56·7	50·9	179	+ 31	0·46	− 1·61	7	9331	+1384
JULY	81·1	− 6·9	46·5	+ 7·0	63·3	+ 3·5	61·3	55·8	188	+ 47	2·50	+ 0·38	12	7619	− 766
AUGUST ...	81·8	− 3·8	44·0	+ 2·8	59·1	...	61·2	55·5	200	+ 65	1·85	− 1·12	10	7873	− 779
SEPTEMBER ...	69·1	−13·7	37·4	+ 4·4	53 9	− 1 9	56·6	54·5	138	+ 23	1·40	− 0·43	9	7897	− 269
OCTOBER ...	65·7	− 4·3	37·8	+ 9·9	49·7	+ 1·7	52·9	52·9	69	− 1	0·88	− 1·87	10	7564	−1556
NOVEMBER ...	58·5	− 3·1	20·0	− 0·8	41·6	− 1·4	49·0	51 0	46	+ 11	1·37	− 0·80	11	8420	− 879
DECEMBER ...	54·0	− 2·0	23·0	+ 8 5	38·4	− 0·1	45·2	47 0	21	− 8	1·81	− 0·58	13	8696	−1616

* In the seventeen years 1887-1903

TABLE X.

Temperature and Rainfall in each Month and Year from 1893 to 1904.

MEAN TEMPERATURE.
(From Maximum and Minimum Readings.)

MONTH.	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	Average for 17 years 1887-1903	1904
	°		°				°		°	°	°	
January ..	36·8	30·8	40·0	34·0	42·6	40·6	39 2	37·4	40·2	39·1	37·5	38·8
February	40·6	28·3	39·8	42·0	39·6	40·8	36·2	35·4	34·1	43·9	38·0	37·1
March ...	43·3	41·0	44·0	43·4	38·7	41·2	37·8	38·6	44·6	44·0	40·8	39·7
April ...	49·2	46·2	47·8	43·7	46·5	46·0	47·2	47·4	45·4	43·3	45·3	47·7
May ...	47·3	54 1	53·7	49·9	49·4	49·5	50·0	52·7	47·8	51·6	51·0	51·6
June ...	55·8	58·3	61·1	58·7	56·2	59·1	57·9	56·7	56·5	54·8	57 6	56·0
July ...	55·3	58·4	61·3	61·5	59·3	62·9	64·1	64·5	58·3	59·5	59·8	63·3
August ...	56·8	59·5	57·3	60·5	57·4	64·5	59·6	60·5	57·5	57·2	59·1	59·1
September	52·5	60·8	54·6	52·9	59·4	56·1	57·0	57·0	55·4	55·4	55·8	53·9
October .	47·6	45·3	43·8	49·9	51·5	49.0	49·1	49·3	49·2	50·4	48·9	49·7
November	45·4	44·9	39·5	44·8	44·3	47·0	44·6	50·5	43·9	43·4	43·0	41·6
December	40 3	38·2	38·2	40·2	44·6	35·9	44·0	37·5	39·5	37·5	38·5	38·4
Year ...	47·6	47 1	48·4	48·5	49·1	49·4	48·9	48·1	47·7	48·3	47·8	48·0

TOTAL RAINFALL.

MONTH.	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	Average for 17 years 1887-1903	1904
January ..	1·61	3·92	4·15	1·89	0·83	3·44	3·53	1·37	1·02	1·97	1·85	2·92
February	2·05	0·32	0·56	2·54	1·47	1·99	4·28	1·34	1·60	1·41	1·47	3·80
March ...	1·05	1·91	2·68	3·14	0·63	1·02	0·70	1·76	1·59	4·63	1·72	1·54
April ...	1·62	2·37	1·33	2·02	1·85	2·40	0·92	1·95	2·49	1·64	1·42	1·12
May ...	2·04	0·82	0·24	1·20	2·62	2·20	2·09	1·11	2·95	2·67	2·06	2·25
June ...	2·16	0·89	1·91	4·13	1·06	3·28	2·41	1·84	2·40	1·66	2·07	0·46
July ...	3·36	3·25	1·25	0·95	1·29	1·10	1 74	3·13	1·59	2·14	2·12	2·50
August ...	2·12	2·75	1·74	3·81	2·57	1·08	2·89	2 13	4·43	5 16	2·97	1·85
September	1 70	0·45	1·34	2·48	0·64	2·80	0·80	0·65	1·49	2·55	1·83	1·40
October...	3·48	2·81	2·50	1·34	2·74	2·37	3·08	1·84	2·33	6·55	2·75	0·88
November	2·48	3·11	1·26	1·96	2·51	1·49	2·10	1·23	2·23	1·65	2 17	1 37
December	1·88	1·99	3·34	2·78	2·24	1·95	4·25	4·29	1·86	1·80	2·39	1·81
Year ...	25·52	24·89	22·27	28·21	20·45	25·12	29·09	22·64	25·98	33·83	24·87	21·94

TABLE XI.

Summary of Nuisances abated and other work done during the years 1903 and 1904.

	1903.	1904.
NUISANCES.		
Houses cleansed (walls and ceilings)	1,974	1,452
Houses repaired	3,858	3,048
Houses provided with better ventilation ...	241	184
Cases of overcrowding remedied	52	46
Accumulations of water in cellars removed ...	435	314
Rain-water spouts repaired or disconnected ...	784	584
Ashpit privies converted to water-closets ...	621	335
Pan privies converted to water-closets ...	2,395	2,283
Privies and closets limewashed...	522	463
Water-closets repaired or altered	875	1,368
Ashplaces repaired or reconstructed	416	398
Additional water-closets provided	199	149
Additional ashtubs provided	1,476	1,691
Urinals repaired or reconstructed	118	135
Drains relaid or repaired	482	468
Drains opened and cleansed	2,545	3,820
Drains efficiently trapped	1,793	2,017
Drains in cellars disconnected from the sewer or abolished	102	77
New sinks provided	103	160
Sink drains disconnected from the sewer ...	62	46
Sink bend-pipes repaired or affixed	266	147
Premises supplied with additional drains ...	114	141
Back yards paved	97	85
Back yards repaired	274	295
Tenants made to cleanse yard and outbuildings	1,658	765
Washhouses repaired	298	239
Premises from which fowls have been removed	116	103
Nuisances from swine and swine styes abated	22	23
Accumulations of wash, manure, &c., removed	406	384
Other nuisances abated	229	111
Number of persons summoned	39	6
Amount of penalties	£4/5/0	—
Amount of costs	£4/8/0	£1/18/0
WORK OF CLEANSING STAFF.		
Courts cleansed by arrangement	4,638	5,470
Other courts cleansed	?	5,571
Pan privies swilled	76,020	57,875
Ashplaces swilled	72,992	66,472

TABLE XI.—*continued.*

	1903.	1904
Houses stripped and limewashed	386	111
Other buildings limewashed	586	102
Amount charged	£ 258/18/3	£62
INSPECTION OF WATER-CLOSETS.		
Number of water-closets inspected	Not instituted until March, 1904.	86,774
Number found with dirty basins		13,538
Number found with dirty seats		2,667
Number found with dirty floors		2,895
Number found obstructed		2,622
Number found defective		1,023
INFECTIOUS DISEASES.		
Houses disinfected	4,181	3,024
Beds and bed clothes disinfected	25,127	24,706
Garments disinfected	27,706	13,167
Other articles disinfected	7,123	12,397
Persons summoned	7	1
Amount of penalties	£3/10/0	5s.
Amount of costs	£1/5/0	—
SMOKE NUISANCES.		
Observations made by inspectors	16,705	13,186
Infringements reported	151	231
Manufacturers cautioned	71	117
Manufacturers summoned	80	98
Amount of penalties	£49/7/6	£77/10 0
Amount of costs	£36/15/6	£37/17/6
LODGING HOUSES.		
Number of common lodging houses	*52	32
Lodgers allowed	2,522	1,854
Registered houses let in lodgings	250	234
Lodgers allowed	1,307	1,273
Visits by day to common lodging houses and houses let in lodgings	14,895	13,545
Visits by night to common lodging houses ...	1,141	830
Keepers summoned	9	37
Amount of penalties	£9	£26/11 0
Amount of costs	£3 4/0	£13/8/6

* Registered last year as 71.

TABLE XI.—*continued.*

	1903.	1904.
CANAL BOATS.		
Number of canal boats on register	378	379
Number of inspections made	969	1,182
Breaches of regulations discovered:		
Cases of overcrowding	7	15
Sexes not separated	9	5
Want of cleanliness	6	4
Water receptacle not provided	13	16
Not in habitable condition	5	6
Other contraventions	50	36
FACTORY AND WORKSHOP ACT.		
Factories inspected	11,122	195
Workshops inspected		7,321
Workplaces inspected		78
Homeworkers' premises inspected	1,207	628
Nuisances under Public Health Act:		
Want of cleanliness	929	933
Want of ventilation	111	103
Overcrowding...	21	13
Want of drainage of floors	?	39
Premises requiring repairs	85	193
Accumulations of rubbish	27	225
Defective drains	107	245
Other nuisances	35	153
Sanitary accommodation insufficient	307	66
Sanitary accommodation unsuitable or defective		365
Sanitary accommodation not separate for sexes		18
Offences under Factory and Workshop Act:		
Breach of special sanitary requirements for bakehouses	0	1
Failure as regards list of outworkers ...	9	14
Giving out work to unwholesome or infected premises	0	0
Persons summoned	9	2
Amount of penalties	£4/15/0	£1/2/6
Amount of costs	£3/6/0	£1/5/6
Number of lists of outworkers received ...	243	147
Number of outworkers therein...	1,707	1,015
SHOP HOURS ACTS.		
Number of visits...	1,704	914
Persons summoned	8	1
Amount of penalties	£3/10/0	(Defendant absconded)
Amount of costs	£5/8/0	

TABLE XI.—*continued.*

	1903.	1904.
SEATS FOR SHOP ASSISTANTS ACT.		
Number of visits	1,686	891
Persons summoned	2	1
Amount of penalties	£1/0/0	£1/0/0
Amount of costs	£0/12/0	£0/8/0
DAIRIES AND MILKSHOPS.		
Dairies on the register	26	16
Milkshops on the register	2,734	2,470
Purveyors on the register	163	182
Visits to dairies	105	90
Visits to milkshops and milk stores	5,021	5,050
Dirty churns found at railway stations	7	0
Dirty vessels at milk shops and milk stores	36	49
Shops, cellars, and pantries limewashed	59	109
Lamp oil, fish, tripe, and vinegar businesses prohibited	29	25
Persons summoned	0	2
Amount of penalties	—	£0/2/0
Amount of costs	—	£0/12/0
HEALTH VISITORS' WORK.		
Number of visits	26,170	28,692
Number of revisits	13,820	10,240
Instructions given to—		
Clean rooms	1,951	1,741
Remove filth from cellar	2,085	619
Destroy rubbish	655	675
Remove bedroom slops	3,217	3,102
Open windows	3,935	4,207
Unstop chimneys	1,109	621
Cleanse bedding	856	851
Use additional bedroom	522	527
Screen off beds	264	188
Get larger house	163	336
Provide additional beds	211	183
Get rid of lodgers	32	81
Wash children	355	622
Feed infants suitably	622	3,231
Clothe infants suitably	?	2,892
Obtain medical advice	764	827
Clean yard and outhouses	761	519

TABLE XII.

Return for the Period 1st July, 1903, to 30th June, 1904, respecting the Vaccination of Children whose Births were Registered in the City during the said period.

	Number of Births returned in the "Birth List Sheets" as Registered.	Number of these Births duly entered in Columns I., II., IV., and V. of the "Vaccination Register" (Birth List Sheets), viz.:					Number of these Births which remained unentered in the "Vaccination Register" on account (as shown by Report Book) of			Number of these Births remaining neither duly entered in the "Vaccination Register" (cols. 3, 4, 5, 6 and 7 of this Return) nor temporarily accounted for in the "Report Book" (cols. 8, 9, and 10 of this Return).
		Col. I.	Col. II.		Col. IV.	Col. V.				
		"Successfully Vaccinated."	"Insusceptible of Vaccination."	"Had Smallpox."	"Number in respect of whom Certificates of conscientious objection have been received."	"Dead, Unvaccinated."	Postponement by Medical Certificate.	Removal to Districts the Vaccination Officer of which has been duly apprised.	Removal to places unknown or which cannot be reached; and cases not having been found.	
1	2	3	4	5	6	7	8	9	10	11
Birmingham Parish ...	8,218	6,210	8	—	25	1,190	100	64	615	6
Aston Union (within the City)	7,245	5,394	24	—	39	933	121	99	464	171
King's Norton Union (within the City) ...	1,691	1,431	13	—	18	130	24	18	51	6
Total	17,154	1,3035	45	—	82	2,253	245	181	1,130	183

TABLE XIII.

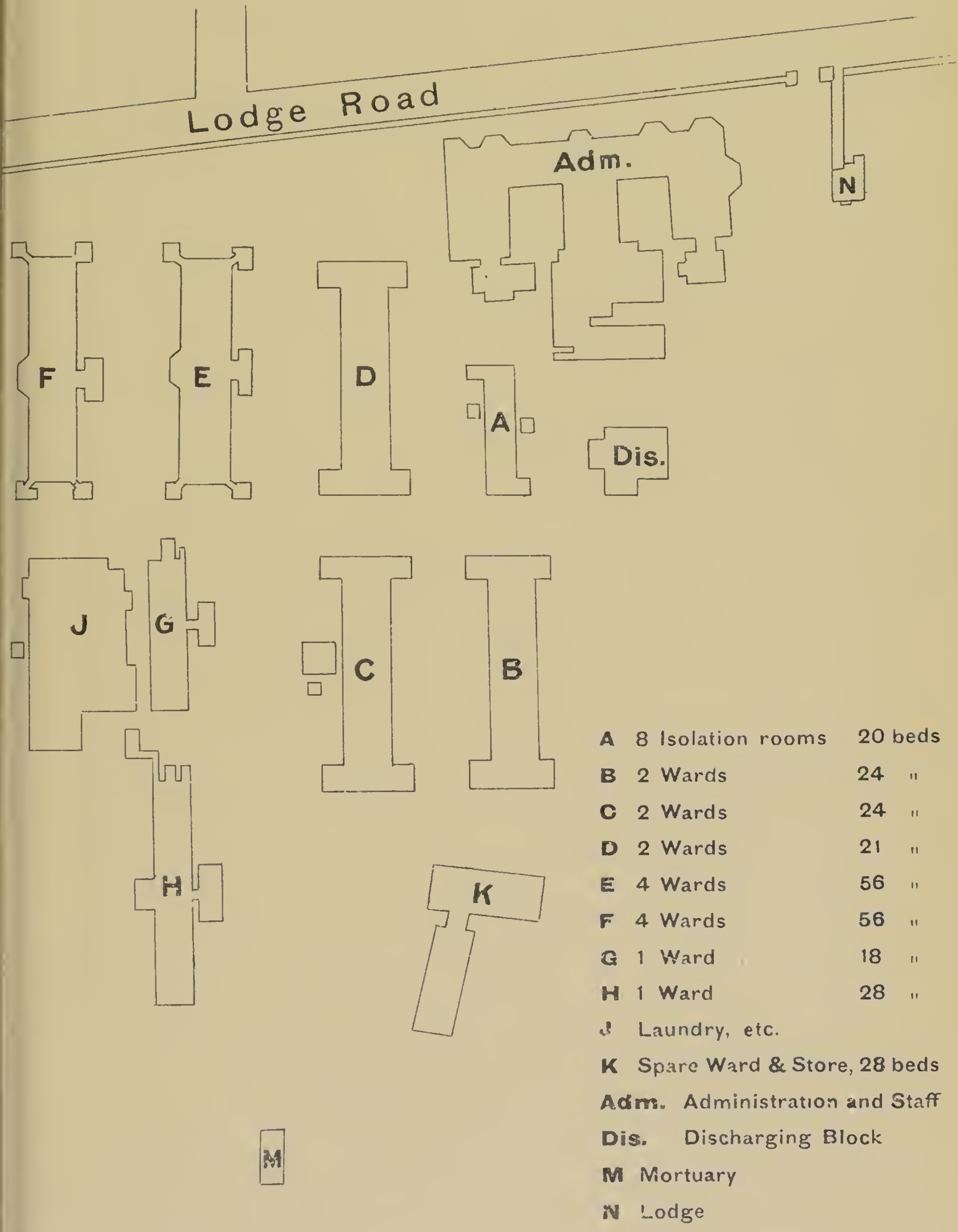
WATER: RESULT OF ANALYSIS EXPRESSED IN PARTS PER 100,000.

Supplied by Mr. J. F. Liverseege, F.I.C., City Analyst.)

Date of Receipt of Sample.	DESCRIPTION.	Temperature in Centigrade Degrees.	Total Solid Matter.	Organic Nitrogen.	Albuminoid or Organic Ammonia.	Free Ammonia.	Nitrogen as Nitrates and Nitrites.	Oxygen absorbed in 4 hours at 27° C. (80° F.)	Chlorine.	Hardness.			REMARKS.
										Temporary.	Permanent.	TOTAL.	
1904.	**CORPORATION SUPPLY.**												
Jan. 11th	143 and 145, Balsall Heath Road	4·4	34·0	·04	·010	·000	·22	·12	1·7	9·5	12·5	22·0	Very slightly turbid; pale green.
Feb. 3rd	Arundel Place, Cattell Road ...	5·0	34·8	·02	·008	·001	·46	·08	2·6	9·0	12·5	21·5	Very slightly turbid; pale green
Mar. 1st	6 and 7, Hooper Street ...	3·9	34·0	·03	·004	·000	·22	·10	2·5	9·0	12·0	21·0	Clear; pale green.
April 11th	Court between 8 and 9, Francis Street	7·2	31·2	·03	·005	·000	·22	·11	1·9	6·0	14·0	20·0	Very slightly turbid; pale green.
May 3rd	5 Court, Summer Row ...	10·6	32·4	·04	·010	·000	·33	·09	2·5	5·0	15·0	20·0	Very slightly turbid; pale green.
June 13th	Ladywood Place, Osler Street	14·3	33·2	·01	·011	·001	·22	·13	2·5	1·0	16·5	20·5	Very slightly turbid; pale green
July 5th	8 Court, Adderley Street ...	16·3	36·8	·03	·007	·000	·11	·13	2·2	5·5	19·0	24·5	Clear; pale green.
Aug. 16th	Court rear of 9 and 11, Little King Street	16·4	30·0	·04	·012	·000	·29	·08	2·7	6·0	11·0	17·0	Clear; pale green.
Sept. 6th	1 Court, York Street, Harborne	15·0	34·4	·03	·010	·000	·22	·12	2·4	9·0	12·0	21·0	Clear; pale green
Oct. 4th	37 Court, Hope Street ...	12·8	26·6	·04	·006	·001	·07	·07	2·1	9·0	7·5	16·5	Very slightly turbid; pale green
Nov. 16th	39 and 40, Larches Street ...	7·8	8·2	·02	·007	·001	·00	·17	1·0	0·0	3·5	3·5	Very slightly turbid; pale brown.
Dec. 12th	Court at rear of 125 and 127, Wellington Street	5·3	7·4	?	·005	·000	·00	·21	0·9	0·0	3·5	3·5	Clear; pale brown.
	Average Results, 1904 ...	9·9	28·6	·03	·008	·000	·20	·12	2·1	6·0	11·6	17·6	
	" " 1903 ...	10·9	32·6	·03	·013	·000	·22	.14	2·2	7·6	13·5	21·1	
	" " 1902 ...	10·0	33·4	·03	·011	·001	·23	·13	2·3	6·8	15·0	21·8	
	" " 1901 ...	10·7	33·1	·03	·008	·000	·19	·12	2·3	9·0	14·5	23·5	
	" " 1900 ...	10·4	32·2	·03	·010	·000	·20	·13	2·4	8·0	12·5	20·5	

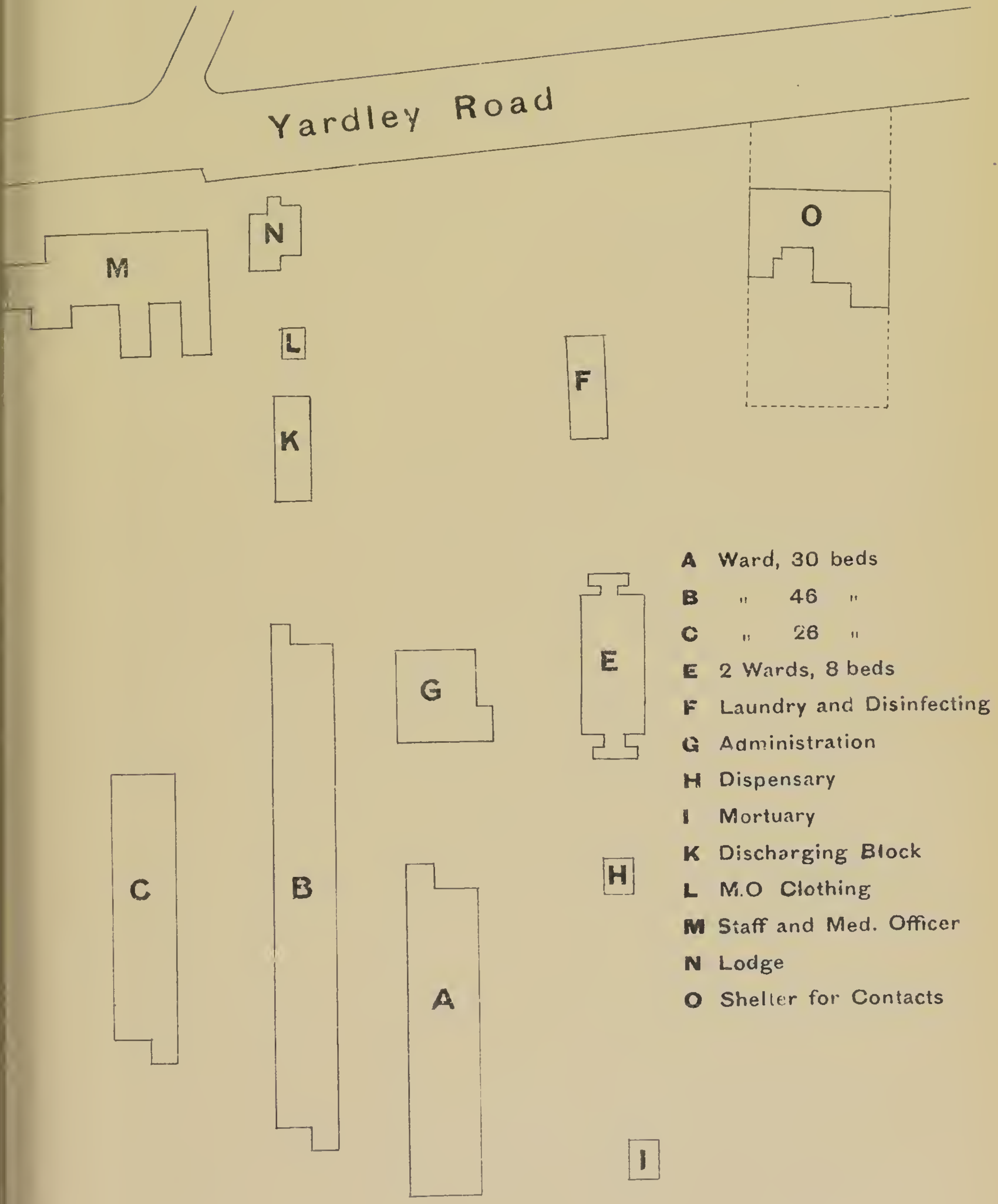
		WELL WATERS.												
Jan.	25th	Metchley Park Cottage, Edgbaston	...	106	...	·005	·003	5.1	·09	12·1	...	...	45°·0	Very slightly turbid; greenish grey.
Feb.	1st	533, Coventry Road	...	98	...	·010	none	3·4	·06	5·0	...	...	60°·0	Very slightly turbid; pale green.
April	14th	Laurel Cottages, Mount Pleasant Coventry Road ...	...	74	...	·004	·000	2·7	·06	6·3	...	...	53°·0	Very slightly turbid; pale green.
,,	29th	104, Vincent Street ...	...	204	...	·017	·000	6·2	·17	16·5	...	...	110·0	Very slightly turbid; pale green.
,,	29th	102–103, Vincent Street ...	...	232	...	·013	·000	8·0	·13	17·0	...	...	150·0	Very slightly turbid; pale green.
,,	29th	100–101, Vincent Street ...	...	212	...	·017	·620	6·8	·19	24·2	...	...	120·0	Very slightly turbid; pale green.
June	1st	12 and 13, Dymoke Street ...	...	140	...	·002	·003	3·8	·04	12·0	...	...	98·0	Clear; pale green.
,,	6th	Six Cottages at corner of Belcher's Lane and Yardley Road	...	76	...	·004	·001	0·7	·08	4·6	...	...	57·0	Very slightly turbid; pale green.
,,	20th	215, 217 and 219, Edward Road	...	208	...	·001	·005	1·1	·03	5·5	...	...	139·0	Very slightly turbid; pale green.
,,	21st	207, 209, 211 and 213, Edward Road	...	182	...	·002	·000	2·2	·05	8·5	...	...	123·0	Very slightly turbid: pale green.
,,	28th	Ravenhurst, Harborne ...	...	78	..	·003	·000	3·5	·16	2·7	...	...	35·0	Very slightly turbid: pale green.
July	15th	7, 8 and 9, Beech Lanes ...	...	26	...	·005	·001	0·1	·04	3·8	...	...	13·0	Very slightly turbid: grey.
Oct.	25th	1 to 6, Florence Cottages, Dolobran Road	...	100	...	·009	·001	3·5	·06	5·8	...	...	61	Clear: pale blue.
,,	25th	79 and 91, Dolobran Road ...	...	146	...	·006	·000	6·0	·11	7·6	...	...	97	Very slightly turbid: grey.
,,	25th	83 and 85, Dolobran Road ...	...	140	...	·040	·003	6·0	·50	8·0	...	...	72	Very turbid; brownish grey
Nov.	29th	Ravenhurst, Harborne ...	...	79	...	·002	·001	3·0	·08	2·8	...	...	34	Very slightly turbid; pale blue.
Dec.	13th	166, Clifton Road	...	160	...	·003	·000	3·3	·24	14·6	...	...	134	Slightly turbid: grey.
,,	13th	27, Edward Road	...	232	...	·000	·000	7·7	·05	20·4	...	.	148	Clear; pale blue.
,,	13th	87, Ladypool Road	...	136	...	·003	·000	4·9	·07	11·5	...	...	101	Clear: colourless.
,,	13th	558, Moseley Road	...	108	...	·007	·011	4·4	·12	8·0	...	...	54	Very slightly turbid: grey.
,,	21st	75, Ladypool Road	...	126	...	·010	·001	6·3	·15	7·9	...	...	81	Very slightly turbid; pale green.
,,	21st	170, Clifton Road	...	104	...	·010	·001	1·6	·12	12·0	...	...	61	Very slightly turbid; pale green.

CITY HOSPITAL, LODGE ROAD.



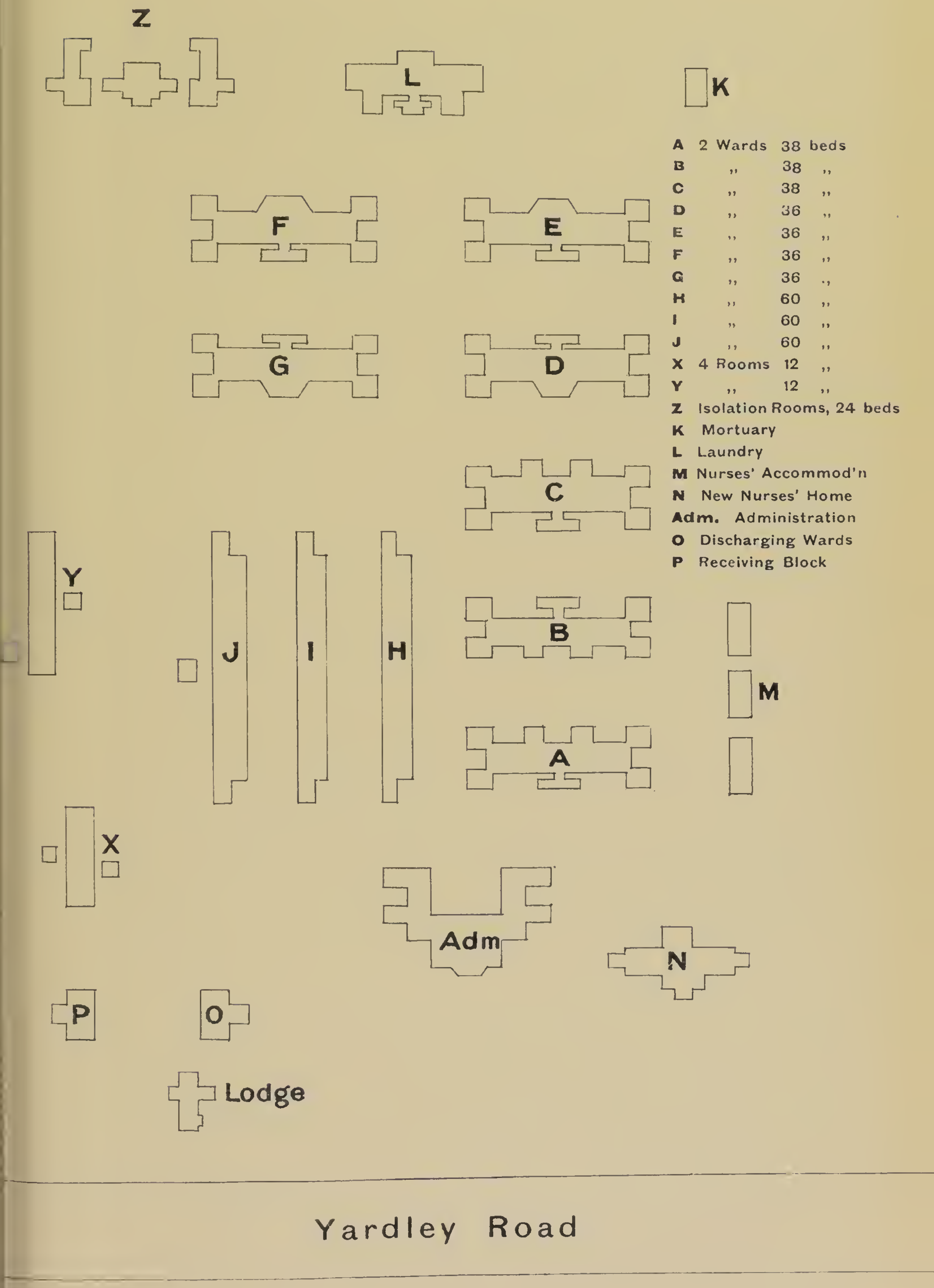
A	8 Isolation rooms	20 beds
B	2 Wards	24 "
C	2 Wards	24 "
D	2 Wards	21 "
E	4 Wards	56 "
F	4 Wards	56 "
G	1 Ward	18 "
H	1 Ward	28 "
J	Laundry, etc.	
K	Spare Ward & Store, 28 beds	
Adm.	Administration and Staff	
Dis.	Discharging Block	
M	Mortuary	
N	Lodge	

CITY SMALLPOX HOSPITAL.



A	Ward, 30 beds
B	" 46 "
C	" 26 "
E	2 Wards, 8 beds
F	Laundry and Disinfecting
G	Administration
H	Dispensary
I	Mortuary
K	Discharging Block
L	M.O Clothing
M	Staff and Med. Officer
N	Lodge
O	Shelter for Contacts

CITY HOSPITAL, LITTLE BROMWICH.



A	2 Wards	38	beds
B	,,	38	,,
C	,,	38	,,
D	,,	36	,,
E	,,	36	,,
F	,,	36	,,
G	,,	36	,,
H	,,	60	,,
I	,,	60	,,
J	,,	60	,,
X	4 Rooms	12	,,
Y	,,	12	,,
Z	Isolation Rooms, 24 beds		
K	Mortuary		
L	Laundry		
M	Nurses' Accommod'n		
N	New Nurses' Home		
Adm.	Administration		
O	Discharging Wards		
P	Receiving Block		

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

UNHEALTHY CONDITIONS

IN THE

FLOODGATE STREET AREA

AND

THE MUNICIPAL WARDS OF

ST. MARY,

ST. STEPHEN,

AND

ST. BARTHOLOMEW.

OCTOBER, 1904.

BIRMINGHAM
Percival Jones Limited, Town Hall Printing Offices, 87-89, Edmund Street.

HEALTH DEPARTMENT,
THE COUNCIL HOUSE,
BIRMINGHAM,

October 10th, 1904.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

At the meeting of your Committee on the 17th day of March, I was instructed, in the following terms, to report on the Floodgate Street Area and the Municipal Wards of St. Mary's and St. Stephen's :—

> MINUTE 8,558. *Resolved.*—That, having regard to the evidence tendered to the Licensing Justices on Thursday and Friday, the 3rd and 4th insts., with reference to the Floodgate Street Area, the Medical Officer of Health be instructed to report whether, in his opinion, the Corporation are under any obligation to take further steps than they are now doing in this particular area, and in the ward in which the area is situated; and, further, seeing that St. Mary's and St. Stephen's death-rate is generally excessively high, what, in his opinion, is the cause of the same, with any recommendations he thinks desirable to make with a view to reducing it.

1.—THE FLOODGATE STREET AREA.

General Plan of Investigation.

In carrying out your instructions, I have deemed it desirable in the first instance to make a very careful and detailed examination of the Floodgate Street Area, as the conditions under which the poor live in such an area are typical of what is found in the bad districts of the larger areas—the Municipal Wards.

In the first place, it has taken two inspectors sixteen weeks to get for me the details required. Having thus obtained the necessary data, I inspected all the properties, and made special investigations into points which appeared to require consideration.

Boundaries and Physical Features of the Area.

The actual boundaries of the Floodgate Street Area are complicated, as the properties on both sides of the boundary streets have been taken. For the purposes of this enquiry, however, the arrangement has proved to be quite convenient.

The area is bounded

On the North-west by Duddeston Row and Park Street;

On the South-west by Digbeth and High Street, Deritend;

On the South-east by Heathmill Lane; and

On the North-east by Fazeley Street, Andover Street, part of Banbury Street, and part of New Canal Street.

The River Rea crosses the southern part of the area in a north-eastern direction. The river is inverted, and thus prevented from being an unsightly nuisance. Except in its northern part, the area is a comparatively flat one, there being a gentle slope to the river.

The high-level viaduct of the Great Western Railway intersects the area, of which passengers on this line obtain a good view. In addition, the North-Western Railway line crosses the area in an east-to-west direction. Canal docks also occupy a considerable space on this Floodgate Street Area.

Geologically, the area is situated on the Red Marls of the Keuper beds of New Red Sandstone Age.

Size and Character of the Area.

The Floodgate Street Area contains approximately 114 acres, and is occupied chiefly by works, warehouses, shops, railway lines, and canal wharf. On a large map I have indicated in red the dwelling-houses, and in green all the other buildings on the area. From this it will be seen that relatively only a small part is occupied by dwelling-houses. When all the buildings are taken into consideration, however, the area may properly be described as one crowded with buildings.

The large number of works on the area, and the number in the districts immediately surrounding, make the atmosphere smoky and gloomy, and therefore comparatively sunless.

The streets run at right angles to one another, in a N.W. to S.E. and N.E. to S.W. direction. Most of them are of fair width, only two or three unimportant streets being under 35 feet wide. With the exception of thirteen, they are paved with setts. A good deal of heavy traffic passes through these streets, making them unsuitable as playgrounds for children.

The area is entirely situated in St. Bartholomew's Municipal Ward, and occupies about one-third part of the ward as regards area and population. The density of population in the whole ward is 84.9 persons per acre, and in this special area about the same density is found-86 persons per acre.

Population and Health Statistics.

Before describing in detail what my enquiry has shown to be the condition of the houses, and of the people living in them, on this area, it will first of all be well to briefly report some of the statistical evidence which we have gathered as to population and health.

At the census of 1901 the population living in streets either wholly or almost wholly situated on this area was 9,878 persons. For statistical purposes I have taken the area covered by these streets rather than that described as the Floodgate Street Area. Except in one or two places, the two are identical—the total difference being that the statistical area contains possibly 100 persons more that the Floodgate Street Area.

In addition to the persons living on the area, it must be borne in mind that there is a certain part of its population always living in the workhouse, lunatic asylums, hospitals, and the gaol; but I have not taken these into consideration, except as regards the deaths at these institutions.

There is always a liability to error when death-rates are calculated on small populations. To avoid error from this source, the rates have been based on the mean number of persons dying during five years, and the population at the middle period has been taken—this population happens to be that taken at the 1901 census. I think, therefore, the death-rates obtained, and set out on the opposite page, may be taken as fairly representing what is the true mortality rate.

STREET.	Census Population.	Deaths in the Years.					Total Deaths.	Deaths in Workhouse.	Mean Death Rate.
		1899	1900	1901	1902	1903			
Allison Street	552	21	37	27	30	22	137	42	49·6
Andover Street... ...	—	—	—	—	—	—	—	—	—
Banbury Street... ...	149	6	7	2	6	5	26	4	34·9
Barn Street	452	23	12	8	17	16	76	11	33·6
Bartholomew Street ...	570	18	14	10	12	16	70	11	24·6
Bordesley Street ...	693	22	21	24	21	19	107	14	30·8
Coventry Street ...	473	19	18	13	13	9	72	17	30·4
Digbeth	579	20	27	11	10	8	76	10	26·3
Duddeston Row ...	312	10	10	11	8	16	55	20	35·3
Fazeley Street	570	15	9	18	12	8	62	5	21·8
Floodgate Street ...	578	19	7	18	15	12	71	8	24·6
Gibb Street	147	8	2	2	3	6	21	—	28·6
Heath Mill Lane ...	671	21	20	16	14	14	85	5	25·3
High Street, Deritend...	633	27	22	26	21	21	117	18	37·0
Little Ann Street ..	248	3	5	8	7	6	29	2	23·4
Meriden Street	551	19	22	15	16	11	83	21	30·1
Milk Street	525	20	10	23	13	21	87	16	33·2
Moores Row & River St.	154	4	11	8	5	4	32	9	41·5
New Bartholomew St....	166	5	3	4	4	5	21	4	25·3
New Canal Street ...	547	23	12	19	17	16	87	29	31·8
Oxford Street	320	13	10	15	11	4	53	14	33·1
Park St....	315	20	22	21	20	17	100	41	63·5
Park Lane & Well Lane	139	7	10	2	2	4	25	4	36·0
Pickford Street ...	282	5	7	7	8	6	33	4	23·4
Trent Street	252	8	5	5	6	10	34	6	27·0
	9,878	356	323	313	291	276	1,559	315	31·6

The mean death-rate on the area for the five years under review was 31.57 per 1,000 per annum, while for the whole City (including this area) it was for the same period 19.38 per 1,000 The mortality on the area was 60 per cent. higher than that in the City as a whole.

Exception may be taken to comparisons between the mortality in such an area and that in the whole City, as the latter includes the districts inhabited by those who know how to take care of their lives and have the means of doing so. For the sake of further comparison, therefore, I have taken the more or less artisan district of All Saints' Ward. Here the mean mortality rate for five years was 16.65. The mortality rate in the Floodgate Street Area was, therefore, 90 per cent. higher than that in All Saints' Ward.

It will be further noted that in the healthiest street on the area the death-rate was 21.8 per 1,000, and that it rose to 49.6 per 1,000 in Allison Street, and 63.5 per 1,000 in Park Street.

The number of persons from this area who died as paupers is high. No less than 315 died in the workhouse, and a number of others would at the time of their death be in receipt of outdoor relief. One in every five of the deaths occurred in the workhouse. In Allison Street, 42 out of 137 deaths during the five years were of paupers at the workhouse. In Park Street the proportion was even higher—41 out of 100 so died.

In the next table is set out the death-rates from certain causes of death in the area as a whole, in the City (including the area), and in All Saints' Ward :—

DISEASE.	Death-rate per 1,000 per annum·		
	Floodgate Street Area.	City of Birmingham.	All Saints' Ward.
Smallpox	·02	·01	—
Measles	·85	·39	·36
Scarlet Fever	·38	·27	·27
Influenza	·36	·22	·24
Whooping Cough	·41	·40	·43
Diphtheria	·24	·18	·13
Enteric Fever	·28	·22	·20
Diarrhœa	1·68	1·24	·96
Enteritis	·69	·56	·44
Erysipelas	·10	·05	·03
Puerperal Fever	·06	·04	·04
Tuberculosis of Meninges ...	·12	·13	·14
" Lungs	3·71	1·62	1·31
" Abdominal ...	·08	·20	·23
" Other forms ...	·36	·15	·14
Alcoholism...	·10	·06	·05
Cancer	·87	·75	·67
Premature Birth	1·03	·69	·72
Debility, Marasmus	2·53	1·22	·96
Old Age	·77	·90	66
Convulsions	·77	·38	·35
Heart Disease	1·36	1·27	1·14
Bronchitis, Pneumonia, Pleurisy	8·04	3·70	3.04
Cirrhosis of Liver	·34	·19	·14
Parturition...	·14	·09	·09
Accidents	1·17	·56	·41
Suicides	·12	·09	·07
ALL CAUSES	31·57	19·38	16·65

It will be seen from the above figures that

- Measles was more than twice as fatal as in the City or All Saints';
- Scarlet Fever and Diphtheria were decidedly more fatal;
- Diarrhœa is represented by a death-rate of 1.68 per 1,000 in the area, as compared with 1.24 in the City, and .96 in All Saints';
- Enteritis follows closely on Diarrhœa;
- Tubercular Diseases of the Lungs caused a mortality 130 per cent. above that for the City as a whole, and 180 per cent. above All Saints';
- Alcoholism and Cirrhosis of the Liver together give a rate of .44 per 1,000, as compared with .19 in the more temperate All Saints' Ward;
- Premature Birth, Debility, and Marasmus caused a death-rate twice as high as that in All Saints';
- Bronchitis, Pneumonia, and Pleurisy caused a rate of 8.04 per 1,000, as compared with 3.70 in the City, and 3.04 in All Saints';
- Accidents caused twice as high a rate as that in the whole City.

The figures above are typical of a poverty-stricken, insanitary, and vicious population.

Improper and insufficient food weakens resistance against many diseases such as phthisis, marasmus, etc., while this, along with carelessness and exposure, increases the deaths from inflammatory diseases of the lungs.

It is typical of such an area that the number of cases from typhoid fever should not be exceptionally large, while the fatality from it is high. The sickness-rate for the area was 1.14 per 1,000, as compared with 1.20 per 1,000 in the whole City. The fatality—percentage mortality—was 19.7 per cent. in the area, and 18.3 per cent. for the City. The explanation given of this apparent anomaly is that people living in filth and dirt continuously become more or less insusceptible to that form of filth which breeds typhoid infection.

But apart from statistics, there is another and equally trustworthy way of estimating the condition of healthiness of these people. I have gone over the district during the daytime and at night, and from observation I have been much impressed with the obvious signs of bad health, stunted development, insufficient nurture, and general physical inefficiency. It would be quite possible to accurately record many of these conditions by having careful anthropological measurements made of persons residing in this area, and, for comparison, of those in a healthier area; but I have not thought this necessary.

House Accommodation.

In the inspection which has been made of the Floodgate Street Area, I have taken into account certain other conditions, such as Housing, Poverty, etc.

At the time of our inspection there were 1,934 houses on the area. Of this number, 1,730 were in actual occupation, 149 were void, and 55 were void but under repairs.

The rental of 1,577 of these houses was ascertained from the tenants. In the remaining instances, shops, public-houses, and other buildings were attached to the dwelling-houses in such a way that it was impossible to apportion the rental; we therefore left these out of account. Of the 1,577 houses,

381 were under 4s. rental per week;
655 were from 4s. to under 5s. rental per week;
172 were from 5s. to under 6s. rental per week;
*101 were from 6s. to under 7s. rental per week;
*268 were 7s. or over rental per week.

*In some of these the front room was used as a shop.

Two-thirds of the recorded houses were of rentals under 5s. per week.

By themselves, these figures indicate that a fair proportion of the houses are of what would appear to be low rental, but when the wages of the occupants are enquired into, so much poverty exists that it is somewhat remarkable that more effort to economise by taking two families into one house was not made than we actually found.

Incidentally, our enquiry has demonstrated the fact that many of the rentals in this district have increased since the enquiry made by the staff of the Health Department in 1898, and that this increase has largely occurred among the low-rented houses. Among these houses, 3d. to 6d. weekly has been added to the rent of a considerable number. In some cases a house which was 2s. 9d. per week some years ago, now lets at 4s. 3d.

Twelve hundred and thirty-six houses were of the back-to-back type, of which it is said there are between 30,000 and 40,000 in the City. Only 698 were "*through*" houses. These include many of the Digbeth shops, the public-houses, and caretakers' houses. The number of available through cottage houses is, therefore, very small.

Excepting the shops and public-house premises, and a comparatively small number of houses mostly of recent construction, practically all the houses are built on the court-yard system—where a yard common to a number of houses supplies the air space—where one water tap in the yard is the only water supply, and where one closet is for the common use of two or more houses.

In the large majority of the houses, the old type of "settle," or undrained sink, still exists, so that, in addition to the above disabilities, the people have not reasonable facilities for disposal of slop water. Indeed, there is so much trouble entailed in getting water into the house, and afterwards disposing of it, as slops, that I am rather surprised to find so many people keeping their houses and themselves clean. In the general recommendations at the end of the Report, I have discussed the remedy for the evils arising from this court-yard system.

I have confined my personal inspection of the houses on this area to these court-yard houses, leaving alone such streets as Digbeth, High Street, Deritend, etc., as the properties there do not seem to me to require consideration in this Report.

To return to the typical court-yard house. It is the prevailing type, not only in this district, but in the central part of our City generally. It has one living-room and a pantry on the ground floor; one, two, three, or even four bedrooms above, the number depending on the area of the living-room and the number of storeys. In a considerable number of houses a cellar is formed below the living-room, the floor of which is supported on an arch. Most of these houses are damp from one or more of the following causes:—

(1) Want of a damp course—few houses of this type were provided with a damp course.

(2) The floor of the living-room being formed of tiles ("quarries") laid on the earth, or on the arch of a cellar, the stones of which are charged to their utmost with moisture.

(3) Defective pointing, roofing, sponting, or brick-work making the outside walls damp.

(4) Undrained "settles" (sinks).

A house with damp walls and floors is, I am convinced, a cause of much ill-health among a city population. Often, indeed, the damp may not be sufficient to make the paper fall off the walls; but short of this such a house is cold, and has a moist atmosphere in it. Most of us recognise this condition when we avoid going into a new house until the walls and plaster have dried.

In a considerable number of cases the inner surface of the walls is broken and defective, allowing of lodgment of dust, and preventing proper cleansing. In many cases the ceilings are broken and bulged, and the woodwork of the windows, doors, floors, and skirtings is broken, rotten, or generally defective, so that the occupants have no inducement to keep their houses clean and tidy, as they can never get them to look well.

The air space attached to these court-yard houses is insufficient, and the general condition of gloom and dirt makes life far from what it ought to be. The court-yard itself should be cleansed twice a week or oftener by the tenants; but what is everybody's duty is nobody's, and, therefore, in the majority of cases it is seldom, if ever, cleansed unless the landlord pays for its regular cleaning.

In many of these court-yards, pan closets still exist. The stench from these, even when the pans are empty, pervades the court-yard, and can be smelled in the interior of the house. These closets, like the houses, are of the cheapest and most slim construction. They are constantly getting out of repair. They are, like the yards, used by more than one house, and it is only reasonable to expect that one tenant will object to cleanse away filth made by another.

The housing conditions are distinctly bad in a considerable proportion of the houses, but these conditions are no worse than they are in many other areas in the City. I have not considered it necessary to specify those houses, which should be taken under the Housing of the Working Classes Act, for it does not appear that the evils which exist on the area are alone due to bad housing conditions.

Poverty in the Area.

The condition of poverty in which the people in this area live has impressed me more than any other feature. The time of our enquiry was one of trade depression, and such a condition falls more heavily on the poor-class and inefficient craftsman than on the steady and efficient workman. Again, the area is occupied by a large number of unskilled labourers, whose average wages (in Birmingham), I am informed, varies from 17s. to 21s. a week. Street-hawkers, barrow-men, and persons employed in a host of ways—all more or less with poor incomes—live in this area.

We therefore found that a very large number of persons were, from their own statements, in poverty. In addition, however, to the statements given, an inspection of the houses confirmed me in the opinion that great poverty did exist, even if one accepted the statements of the people with suspicion.

In the following tabular statement, I have attempted to codify the information given us as to the total earnings of each family. The statement must be looked at as being probably inaccurate to the extent of 10 or even 15 per cent. The tendency is to under-state one's income. Among casual labourers it is difficult at any time to obtain reliable information, but the following statement is sufficiently accurate to indicate the extent of the poverty.

STATEMENT AS TO TOTAL EARNINGS OF HOUSEHOLDS PER WEEK.

	NO. OF FAMILIES EARNING									TOTAL.
	Less than 10/-	10/- and less than 15/-	15/- and less than 17/-	17/- and less than 19/-	19/- and less than 21/-	21/- and less than 23/-	23/- and less than 25/-	25/- and less than 30/-	Over 30/-	
Class 1. Man, wife, and up to 3 children.	36	102	101	128	156	107	103	232	199	1,164
Class 2 Man, wife, and 4 to 6 children.	2	8	9	15	39	16	18	56	105	268
Class 3. Man, wife, and over 6 children.	—	—	—	—	1	1	2	8	26	38
Widowers and Widows, with or without families or lodgers.	68	80	24	24	23	10	13	8	4	254

It is, I think, impossible for a man living in the centre of the City, and employed as a labourer at the standard rate of wages, to keep a wife and family of three children without being in poverty. This, notwithstanding the fact that he does not spend anything on drink or tobacco, or on travelling to and from his work. His only chance of getting enough for house rent, clothing, and fuel lies in the family earnings being increased by his wife's earnings, or by the earnings of a child, or by taking in lodgers. The necessity, therefore, exists among this large class for the wife to leave her young children to go to work, and of the children being put to work at the earliest opportunity. If anything be spent on drink, actual poverty is at once evident.

On the area we found a large number of skilled artisans who admitted receiving good wages, and who were apparently living in conditions of poverty from drink, gambling, or other unnecessary expenditure. The amount of ill-health to which poor living, bad housing, and inferior surroundings give rise increases the poverty.

Many people have fallen into such a condition of poverty as to be unable to furnish a house of their own, and have to go into lodgings of one kind or another.

On the area there are twenty common lodging-houses, registered for 629 persons. These are of a bad type, and are being dealt with under the powers contained in the Birmingham Corporation Act of 1903.

In addition to the above, there are fifty-four registered houses sub-let in lodgings, having accommodation for 297 persons. These are occupied by the most depraved and dirty of the population. They, however, fulfil a useful purpose, and, if further powers were obtained for their regulation, they form a means of housing the vicious and abandoned people who are a nuisance to their neighbours and a terror to landlords.

At the time of our visit, 689 lodgers were found, but this number is probably less than the true one, as it is most difficult to get these people to admit that they take in lodgers.

General Conditions.

The area is in the centre of the City, and, except in the case of the Park Street Gardens, there is no park within reasonable distance for the 2,600 children who were found on the area. Park Street Gardens appear to be much appreciated, but essentially they are not playgrounds where healthy games can be played in an open space.

There are at present no baths within easy distance where those who may wish to do so can have a cleansing slipper bath. (Swimming baths are not necessary for purely health purposes.)

Drink as a Cause of Ill-health.

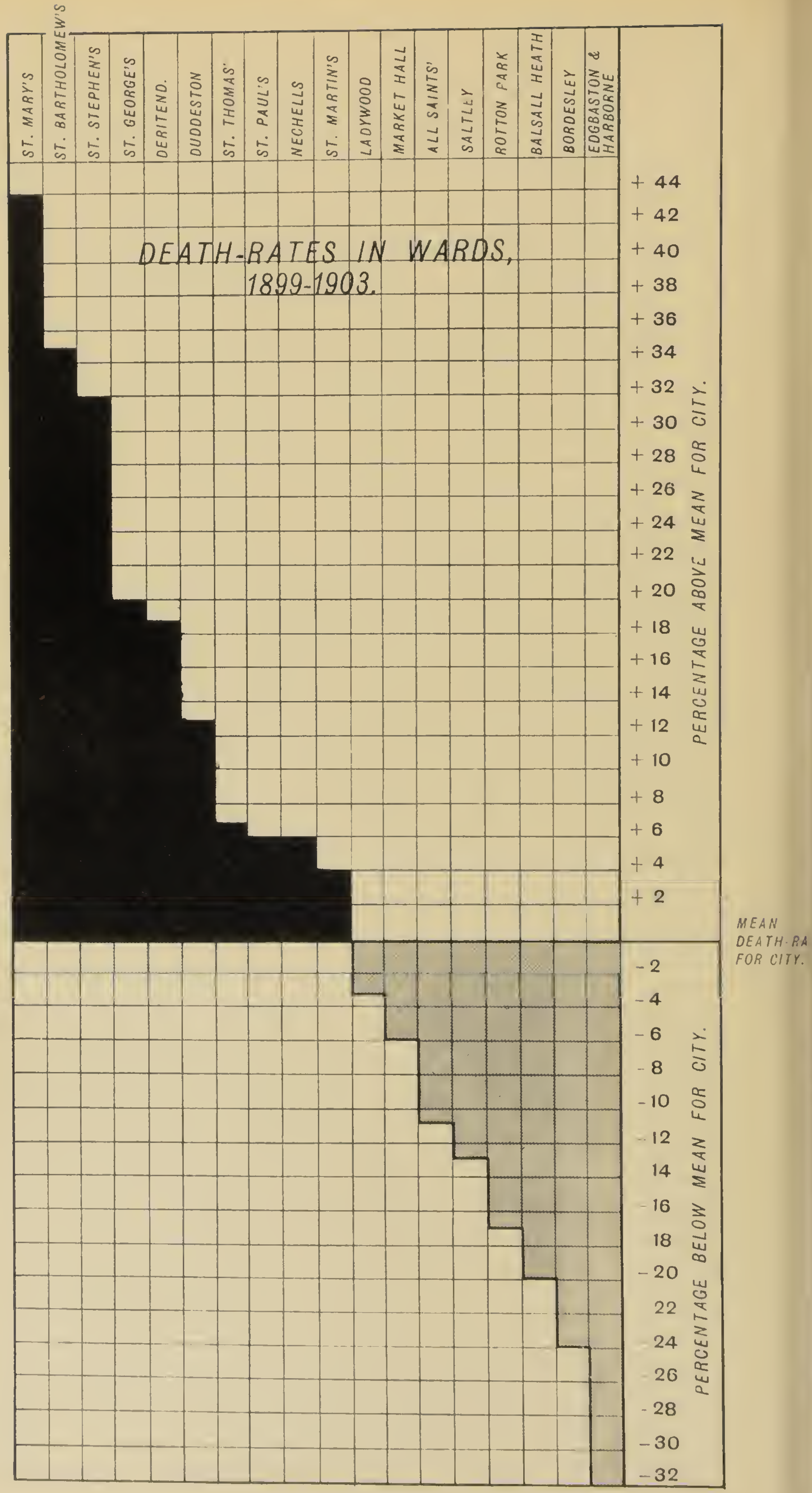
In addition, however, to all the contributory causes already mentioned, it is difficult to say whether drink, combined with ignorance and carelessness, does not play as important a part—or even a more important part—than all the conditions of bad housing, smoky atmosphere, and poverty. One cannot but be struck, in going over such an area in the evening, with the number of public-houses, and with the extent to which they are used as clubs. A large number of men and women in the area soak themselves with drink every day, thereby ruining their constitutions, bringing on poverty, and indirectly causing most unhealthy conditions. Bearing in mind such conditions resulting from the excessive use of drink, the drink question has a public health aspect of the greatest importance, and I have therefore referred to it, although it does not come within those for consideration by the Health Committee.

Ignorance and Carelessness of the People.

Such an area as this is the resort of a large number of the more careless and ignorant members of the population. This carelessness and ignorance are "catching," with a result that people who would lead clean and healthy lives are contaminated by living in proximity to these degenerates. There is no doubt whatever that much of the misery in the area arises from the carelessness and ignorance of the tenants, and it would be unjust to say that the property owner alone was at fault in regard to the condition of the houses.

Many of the houses, if occupied by clean, active persons, would have an entirely different appearance, and would be much more healthful than they are at the present time.

Nearly everyone who has had experience of such areas must be impressed with the vicious circle which exists. Bad housing, drink, poverty—all have to be attacked along the broadest lines, and with a clear idea of the goal to be aimed at.



DEATH-RATES IN WARDS, 1899-1903.

II.—The Three Unhealthy Wards.

By your resolution, I am also asked to report upon the condition of St. Bartholomew's, St. Mary's, and St. Stephen's Wards, as to what is the cause of the high death-rates in these wards, and I am asked to make any recommendations with a view to reducing them. Before setting out what I feel to be the cause of the high death-rates, I would like to indicate in the accompanying table the death-rate in each ward in the City for five years, together with the mean rate for each ward. Here it will be seen that the death-rate in St. Stephen's averages 25.4 per 1,000, in St. Bartholomew's 26.0, and in St. Mary's 27.7. It will also be noticed that these wards are year after year very much higher as regards death-rate than any others in the City.

Ward Death-rates per 1,000.

WARDS	1899.	1900.	1901.	1902.	1903.	Mean of five years.
Rotton Park	18·2	17·8	16·1	14·4	13·9	16·1
All Saints'	17·6	19·6	17·5	15·5	15·7	17·2
Ladywood	19·8	19·2	20·0	17·3	17·8	18·8
St. Paul's	22·0	20·4	22·6	18·2	19·2	20·5
St. George's	23·8	26·3	23·2	21·6	20·8	23·1
St. Stephen's	**26·6**	**26·3**	**26·6**	**26·5**	**21·0**	**25·4**
St. Mary's	**30·7**	**30·4**	**29·7**	**24·8**	**23·1**	**27·7**
St. Bartholomew's ...	**27·2**	**27·7**	**25·9**	**24·6**	**24·4**	**26·0**
Market Hall	18·8	21·5	17·4	16·9	16·3	18·2
St. Thomas'	22·9	20·9	20·9	20·1	18·7	20·7
St. Martin's	21·0	21·9	20·3	20·3	16·8	20·1
Edgbaston and Harborne	13·8	14·4	13·1	12·3	12·1	13·1
Deritend	24·4	26·0	22·3	20·3	21·5	22·9
Bordesley	15·5	15·8	15·4	13·4	13·3	14·7
Duddeston	21·3	23·4	23·2	21·3	19·7	21·8
Nechells	22·5	21·9	22·6	18·7	16·9	20·5
Balsall Heath	17·5	16·0	15·0	14·8	13·5	15·4
Saltley	18·3	16·7	17·6	15·1	15·7	16·7

In the accompanying chart are shown the percentages above and below the mean death-rate for the City for each ward for five years. Such a chart appeals to one more forcibly than does the table.

The conditions which have been described as existing in the Floodgate Street Area occur to a greater or less extent in each of the three wards in question. Some of the streets in these wards have very high death-rates; others have comparatively low death-rates; but when the good and the bad are taken together, the bad so largely preponderates that the death-rate is high. If one examines these death-rates more closely, one gets evidence from the causes of mortality that the conditions which operate in producing a high death-rate in these wards are very similar to those in the smaller Floodgate Street Area.

Mortality Rates per 1,000 from Certain Causes in St. Mary's, St. Stephen's, and St. Bartholomew's Wards; Together with those for the Remainder of the City, and for All Saints' Ward.

Causes of Death.	Saint Mary's Ward.	Saint Stephen's Ward.	Saint Bartholomew's Ward.	Rest of City.	All Saints' Ward.
Whooping Cough ...	·72	82	·42	·37	·43
Measles...	·62	·87	·62	·34	·36
Scarlet Fever	·32	·18	·38	·27	·27
Diphtheria	·18	·22	·23	·18	·13
Typhoid Fever ...	·43	·38	·28	·20	·20
Diarrhœa	1·48	2·62	2·19	1·10	·96
Enteritis	1·76	·98	·90	·47	·44
Phthisis	2·85	2·34	2·60	1·48	1·31
Other Tubercular Diseases	·60	·44	·40	·49	·52
Cirrhosis and Alcoholism	·55	·21	·39	·24	·19
Premature Birth ...	·48	·82	·83	·68	·72
Debility & Marasmus	1·62	1·90	1·74	1·14	·96
Bronchitis, Pneumonia and Pleurisy ...	5·56	5·57	6·12	3·39	3·04
Accidents	·80	·75	·72	·53	·41
All Causes	26·98	25·34	26·08	18·50	16·65

The total population for the three wards was, for 1903, 66,588 persons, and the area 666 acres.

This represents about one-eighth of the whole population of the City, and one-nineteenth part of its area.

If a mortality rate of 15 per 1,000 be taken as one reasonably possible in a working-class population, then the death-rates which occur in the above three wards indicate that over 700 lives are lost annually as a result of the conditions under which the people live. This gives a rough indication of the magnitude of the question which has, sooner or later, to be dealt with.

III.—Causes of the Unhealthy Conditions.

The causes which have produced this state of affairs in the central slum district of Birmingham are not difficult to define. They are common to a large number of towns, though perhaps not to the extent found in Birmingham. Nearly all of them arise from the fact that within the past century large cities have grown up with mushroom-like rapidity. No one could have predicted the direction or extent of their growth, and probably none of our ancestors foresaw the conditions which were going to arise.

Several local circumstances have tended to make the general conditions bad in the City.

In its physical features, the district has not lent itself to the provision of large parks and open spaces. Again, the physical and local conditions have tended to prevent the development of wide main arteries, for swift traffic, and for channels of air supply inwards.

Another old local custom which has done great harm is that of building houses on the court-yard system on land leased for what must be considered a short term of years—a term so short that the slimly-built back-to-back houses were built to last no longer than the lease.

By the above conditions, people have been crowded together and encircled with the ever-increasing ring of the so-called City suburbs. To compensate for the absence of natural advantages, artificial conditions have grown up, which in many respects are most pernicious.

IV.—REMEDIES FOR THE UNHEALTHY CONDITIONS.

These, for the sake of conciseness, may be divided into the following headings :—

(1) Regulating the Spread of Population.
(2) The Housing Question.
(3) The Drink Question.
(4) Miscellaneous Questions.

Regulating the Spread of Population.

I feel strongly that the Municipality must in the immediate future take steps to reduce the crowding of court-yard houses in the centre of the City, and at the same time direct the development of the City outwards, so as to prevent a recurrence of the conditions already existing. Wide and straight main thoroughfares are required to carry the workers outwards, and spread them over greater areas. Unless the means of transit are rapid and cheap, it is probable they will not be of much value. In this respect, I doubt whether it is possible to use our existing tram routes as main lines of traffic on account of their narrowness and the number of cross streets, unless costly widenings are effected, as rapid traffic in them is at present dangerous.

A special difficulty is met with in Birmingham in the fact that the total area of the City does not allow of much scope for development of land in the outskirts unless our neighbours in adjoining districts co-operate.

Several schemes have been devised to bring available land into the market at a price suitable for dwellings for the artisan classes, who form from 80 to 90 per cent. of our population. One of these which has been vigorously promoted is the English suggestion of Taxation of Land Values, while another is the German scheme of Municipal control of building land in the suburbs. In respect of both of these schemes, I do not feel called upon to express an opinion, nor do I possess the necessary information. The German scheme is in operation, and is said to work well in the direction of stimulating the building by private enterprise of houses of the proper description, and with the proper amount of space for playgrounds, open spaces, main arteries, institutions, etc., etc. I feel, however, that a scheme which is now possible in Germany may be entirely out of the question in England.

I believe, then, that the first step which requires to be taken in Birmingham is to make it possible for the working classes to spread themselves over a much wider area than they can do at present. At the same time, the conditions of spread require to be carefully controlled, having regard to the future extension of our city. I am aware that the problem is fraught with many difficulties, so much so that I do not think any municipality has as yet dared to grapple with it on adequate lines. At the same time, I feel strongly that it comes within the scope of the duties of the local authority, with a view to providing for the great mass of the town population houses reasonably "healthy" in themselves, and with surroundings compatible with decent living.

The Housing Question.

I do not think that our court-yard house with all its surrounding conditions will ever be found to satisfy the reasonable requirements of a healthy population. These court-yard houses are the places where dirty habits are learned, where modesty is lost, and where even decency, in the great majority of cases, is only obtained at a sacrifice. The dirty and the careless tenant generally sets the standard for all the others in the court-yard. The yard, water supply, drainage, closet accommodation, and refuse removal system, are all common, and therefore all regulated by the dirtiest and most careless in the yard.

I feel strongly that only self-contained houses, with separate water supply, closet, etc., should be allowed.

As it is impracticable to substitute such houses for the 30,000 or 40,000 court-yard houses already existing, I suggest that the evils be minimised as much as possible by extension of the work of the Housing Committee, who at present

(1) Get the court-yard opened out to the street so as to admit of air and light, and allow of a certain amount of supervision from the street;

(2) Get the houses made dry and capable of being kept clean;

(3) Get all the filth which accumulates under floors, skirting boards, etc., removed and destroyed;

(4) Get the filthy and degrading pan system done away with, and ash-bins provided for dry refuse.

I think that a real advance is now possible in providing every such house with its own water supply on the sink. In former days there may have been some necessity for holding back in this respect on account of the limitation of our supply, but I think now the time has come for the supply to be put into each house. This means also that a gully will have to be provided for every house, or every two houses, and this, too, is equally necessary, so as to limit the common use of one gully by all the people in the court-yard. (At present this is frequently a cause of trouble and nuisance.)

It is obvious that the housing question, so far as the central area is concerned, is internally bound up with the question of spreading the population, and regulating its spread, by cheap means of transit. If the latter is not developed sufficiently, the pressure in the central areas will not be relieved, and, as a result, we shall still have a large number of well-paid artisans remaining in these court-yard houses because of their cheapness, and because they are unable to get suburban houses. If, on the contrary, the means of spread are successful, I feel that gradually these court-yard houses—most of which are at present old and with short leases—will be replaced by business premises or rebuilt as self-contained houses or flats.

In any scheme which has for its object the spreading of the artisan population over a wider area, it is essential that attention be paid to the proper provision of (1) open spaces for recreation, and (2) houses at rentals within the means of the people. For this latter purpose it may even be necessary, in the case of low-rented houses where sufficient guarantee is forthcoming as to rental, that building bye-laws be relaxed, although I hope this may not be necessary.

The Drink Question.

On the Floodgate Street Area, and in the Wards, the damage to health from constant "soaking" with beer assumes a public health aspect, and, although the subject cannot be dealt with directly by the sanitary authority. I would suggest that a representation be made to the proper authority urging that the facilities for "soaking" in public-houses be limited. There would appear to be more than one method of attacking the problem, but at present the inducements offered at the corner of every few court-yards are such as to be a real danger to the public health. If we can by any means remove this abuse of drink, a great step in the direction of cleanliness and better health will be made.

MISCELLANEOUS QUESTIONS.

(*a*) *Lodging-Houses.*

As regards our common lodging-houses for tramps and others, I believe the powers we have recently obtained will enable us to close many of the existing unsuitable houses and to get the remaining houses greatly improved.

(*b*) *Houses Sub-let in Lodgings.*

These are at present in a bad condition, and it is improbable that our existing powers are sufficient for their regulation. A large development of the system has taken place in recent years, and I suggest that further powers be obtained for dealing with this most objectionable, though perhaps necessary, type of house.

(*c*) *Filthy and Verminous Tenants.*

I think also that further power is required to enable us to deal with tenants who, after due notice, continue to keep their houses, yards, and closets in a filthy condition. In the case of our common court-yards and closets, some provisions similar to those in use for common stairs in flats are required. Additional power is required to punish those who send their children to school in a filthy and verminous condition.

The health of many children is imperilled by the filthy condition of the clothes they are sent out in. In many cases quite unnecessary danger is occasioned by the verminous and ulcerated condition of their heads.

(*d*) *The Pan System.*

Rapid progress should be made in the abolition of this filthy and expensive system by the substitution of properly-constructed water-closets. Many of the recently-converted water-closets in the three wards are badly arranged, ill-constructed, and kept in a filthy and disgusting condition. In the case of the larger common court-yards, I believe it is necessary for decency that a urinal should be provided, and that the custom of building the closets off a narrow passage should be discontinued, as it is liable to give rise to more objectionable features than those it is designed to avoid.

(*e*) *Water Supply.*

Steps should be at once taken to provide the court-yard houses with a water supply on the sink. All old settles should be abolished, and proper means of drainage provided.

(*f*) *Bath Houses.*

In the report on Infant Mortality which I presented, I mentioned the necessity for small bath houses in the poorer-class districts of the City where a hot bath could be obtained for a penny. I think that such baths should be provided in two or three localities to begin with, and, if their value can be proved, an extension of such facilities for cleanliness could then be provided in other districts in the City. The essential feature in the erection of such bath-houses should be their proximity to the houses they are intended to supply, and the limitation of their cost to bare essentials, so that cleanliness may be cheap.

(g) Parks and Recreation Grounds.

The area and the wards are not supplied with ground where the children and young people can have reasonable exercise, and in this respect much harm is being done. The question, however, seems to be one of moving the people to healthy districts where such exercise can be readily obtained, rather than acquiring such playgrounds for them, at enormous cost, near their present homes.

Other Agencies at Work.

No one can have made a careful inspection of the Floodgate Street Area without being impressed with the number of agencies, religious and social, which are being carried on for the betterment of the people. Indeed, one would point to these as one of the bright features in the area. It indicates that in our City, at least, there are many who do not recognise that class distinction which does such infinite harm in raising bitter and unkind feeling among those fellow-creatures who, by birth or weakness, are unfortunate and unhappy. Without such agencies, the rising generation in this area would not know in many cases that life has its better side.

The questions raised as a result of my inspection of the Floodgate Street Area and of the three wards have been dealt with on general lines, as I feel certain that it is on these or similar ones that the best results will eventually be obtained. It is most obvious that these questions are among the most difficult of those presenting themselves to a municipality.

I can conceive that, in regard to some of them, much divergence of opinion will be expressed, and possibly also better methods of attaining the same object may result from their consideration; but the problems remain the same.

In regard to the general questions relating to court-yards, water supply, closets, general cleanliness, etc., there appears to me to be less room for discussion, and therefore greater possibility of immediate action. While this is so, I hope that the magnitude and difficulty of dealing with the larger question of eventually providing better housing conditions for the artisans will not prevent effective action being commenced.

For the sake of brevity, I have purposely avoided going into details in the above recommendations, as these can be easily filled in after the general questions are dealt with.

I am, Gentlemen,

Your obedient Servant,

JOHN ROBERTSON.

APR